

STIC Search Report

EIC 1700

STIC Database Tracking Number: 2433310

TO: Dawn Garrett
Location: REM 10C79
Art Unit : 1774
February 22, 2007

Case Serial Number: 10/786811

From: Mei Huang
Location: EIC 1700
REMSEN 4B28
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Mei.huang@uspto.gov

Search Notes

Examiner Garrett,

Please feel free to contact me if you have any questions or if you would like to refine the search query,

Thank you for using STIC services!

Mei Huang



=> fil hcap
FILE 'HCAPLUS' ENTERED AT 11:19:56 ON 22 FEB 2007
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(FILE 'HOME' ENTERED AT 11:17:28 ON 22 FEB 2007)

FILE 'HCAPLUS' ENTERED AT 11:17:39 ON 22 FEB 2007
D SAV
ACT GAR811A/A

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L1      STR
L2      SCR 2043
L3  (  39814)SEA SSS FUL L1 AND L2
L4      STR
L5  (  441)SEA SUB=L3 SSS FUL L4
L6  (  198)SEA L5 AND ?AZOLE?/CNS
L7  (  72)SEA L6
L8      QUE ELECTROLUM!N? OR ORGANOLUM!N? OR (ELECTRO OR ORGANO
          OR ORG#) (2A)LUM!N? OR LIGHT(2A)(EMISSION? OR EMIT?) OR
          EL OR E(W)L OR OLED OR L(W)E(W)D OR LED/IT
L9  (  8)SEA L8 AND L7
L10 ( 15)SEA L6(L)DEV/RL
L11 (  8)SEA L6(L)L8
L12 (  1)SEA L6(L)AZOLE#
L13 (  8)SEA L9 OR L11 OR L12
L14 (  8)SEA L10 NOT L13
L15 ( 56)SEA L7 NOT (L13 OR L14)
L16      QUE 73/SC,SX
L17      QUE (74 OR 76)/SC,SX
L18 (  3)SEA L15 AND L16
L19 ( 12)SEA L15 AND L17
L20 ( 15)SEA L18 OR L19
L21  41 SEA L15 NOT L20
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SEL L21 HIT RN

FILE 'HCAPLUS' ENTERED AT 11:19:56 ON 22 FEB 2007

=> d 121 ibib abs fhitstr hitind 1-41

L21 ANSWER 1 OF 41	HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:	2003:413724 HCAPLUS
DOCUMENT NUMBER:	139:150004
TITLE:	Self-assembly of a derivatized PPV and a functionalized fullerene by hydrogen bonding
AUTHOR(S):	Fang, Hongjuan; Shi, Zhiqiang; Li, Yuliang; Xiao, Shengqiang; Li, Hongmei; Liu, Huibiao; Zhu, Daoben
CORPORATE SOURCE:	Center for Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE:	Synthetic Metals (2003), 135-136, 843-844
PUBLISHER:	CODEN: SYMEDZ; ISSN: 0379-6779
DOCUMENT TYPE:	Elsevier Science B.V.
	Journal

LANGUAGE: English

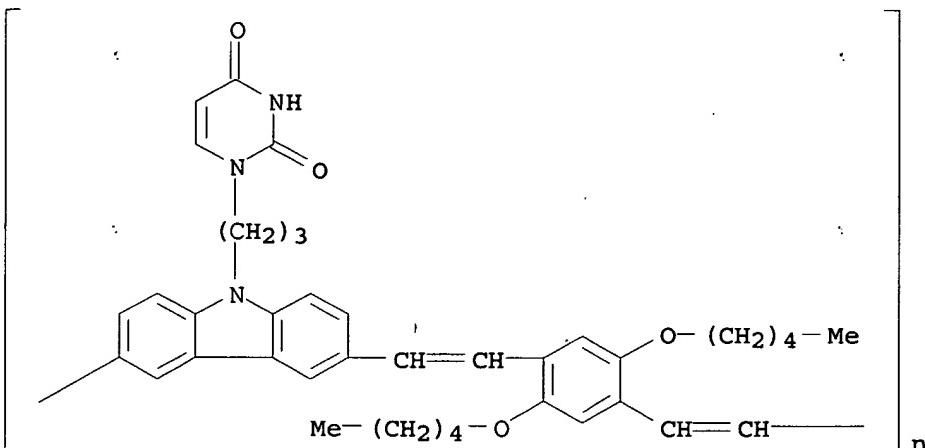
AB A new self-assembly system of functionalized carbazole-p-phenylene copolymer with organo-fullerene by a three-point hydrogen bonding interaction was synthesized. The formation of hydrogen bonding was confirmed by ¹H-NMR and fluorescence quenching expts.

IT 532933-06-5P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (self-assembly of functionalized carbazole-p-phenylene copolymer and organo-fullerene by hydrogen bonding)

RN 532933-06-5 HCPLUS

CN Poly[{9-[3-(3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinyl)propyl]-9H-carbazole-3,6-diyl}-1,2-ethenediyl[2,5-bis(pentyloxy)-1,4-phenylene]-1,2-ethenediyl] (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36

IT 532933-04-3P 532933-05-4P 532933-06-5P

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
 (self-assembly of functionalized carbazole-p-phenylene copolymer and organo-fullerene by hydrogen bonding)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:173037 HCPLUS

DOCUMENT NUMBER: 138:208797

TITLE: Functionalized amide or imide polymers as corrosion inhibitors on metal surface in aqueous systems

INVENTOR(S): Ghosh, Tirthankar; Hann, William M.; Weinstein, Barry

PATENT ASSIGNEE(S): Rohm and Haas Company, USA

SOURCE: Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

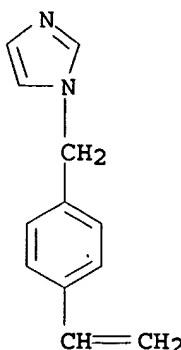
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1288338	A1	20030305	EP 2002-255836	200208 21
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CA 2398425	A1	20030304	CA 2002-2398425	200208 20
CN 1407058	A	20030402	CN 2002-141603	200209 02
JP 2003183863	A	20030703	JP 2002-257014	200209 02
US 2003063998	A1	20030403	US 2002-234861	200209 04
PRIORITY APPLN. INFO.:			US 2001-316292P	P 200109 04

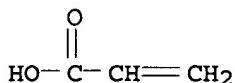
- AB The polymeric corrosion inhibitors are based on ethylenically unsatd. monomer and an imide or amide with pendant heterocyclic groups, and are suitable for preventing metal corrosion in aqueous systems having pH of 6-10. The polymers are added at ≤5% by weight (preferably 1-100 ppm), have low toxicity, and form a protective barrier film on metal or alloy surface in aqueous systems. The polymers are resistant to oxidizing biocides, and to repeated or prolonged exposure to corrosive agents. The typical corrosion inhibitor is a copolymer of maleic anhydride and diisobutylene, is postfunctionalized with aminopropyl imidazole, and at 3 ppm shows Cu protection in aqueous NaOCl solution comparable to that of benzotriazole.
- IT 500214-05-1P, Acrylic acid-1-(4-vinylbenzyl)imidazole copolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (corrosion inhibitors; amide or imide functionalized polymers as aqueous corrosion inhibitors for metals)
- RN 500214-05-1 HCPLUS
- CN 2'-Propenoic acid, polymer with 1-[(4-ethenylphenyl)methyl]-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 78430-91-8
CMF C12 H12 N2



CM 2

CRN 79-10-7
CMF C3 H4 O2IC ICM C23F011-173
ICS C08F008-32CC 56-10 (Nonferrous Metals and Alloys)
Section cross-reference(s): 38

IT 107-85-7DP, reaction products with maleic anhydride, polymers
 107-95-9DP, β -Alanine, reaction products with maleic anhydride
 polymers 108-30-5DP, Succinic anhydride, reaction products with
 1-(3-aminopropyl)imidazole 111-86-4DP, Octylamine, reaction
 products with maleic anhydride, polymers 141-43-5DP, Ethanolamine,
 reaction products with maleic anhydride polymers 288-32-4DP,
 Imidazole, reaction products with poly(Bu acrylate) 4200-92-4DP,
 2-Octylsuccinic anhydride, reaction products with
 1-(3-aminopropyl)imidazole 6338-55-2DP, Triethylene glycol
 monoamine, reaction products with maleic anhydride polymers
 9003-49-0DP, Poly(butyl acrylate), reaction products with imidazole
 9011-13-6DP, Maleic anhydride-styrene copolymer, reaction products
 with 1-(3-aminopropyl)imidazole 9011-16-9DP, Maleic
 anhydride-methyl vinyl ether copolymer, reaction products with
 1-(3-aminopropyl)imidazole 13364-16-4DP, 2-Methyl-1-pentylamine,
 reaction products with maleic anhydride, polymers 25119-83-9DP,
 Acrylic acid-butyl acrylate copolymer, reaction products with
 1-(3-aminopropyl)imidazole 26298-63-5DP, Butyl vinyl ether-maleic
 anhydride copolymer, reaction products with 1-(3-
 aminopropyl)imidazole 29697-06-1P, Maleic anhydride-2-methoxyethyl
 vinyl ether copolymer 34229-21-5DP, Diisobutene-maleic anhydride
 copolymer, reaction products with 1-(3-aminopropyl)imidazole
 111306-63-9DP, Maleic anhydride-1-octadecene alternating copolymer,
 reaction products with 1-(3-aminopropyl)imidazole 115678-70-1DP,
 Maleic anhydride-1-tetradecene alternating copolymer, reaction
 products with 1-(3-aminopropyl)imidazole 126594-92-1P, Acrylic
 acid-allyl 2-hydroxypropyl ether copolymer 126657-21-4DP, reaction
 products with maleic anhydride polymers 133126-36-0DP, Maleic

anhydride-vinyl acetate alternating copolymer, reaction products with 1-(3-aminopropyl)imidazole 146915-07-3DP, Limonene-maleic anhydride copolymer, reaction products with 1-(3-aminopropyl)imidazole 500214-05-1P, Acrylic acid-1-(4-vinylbenzyl)imidazole copolymer 500214-06-2P, Acrylic acid-1-acryloylbenzotriazole copolymer 500214-07-3P, Allylimidazole-maleic anhydride copolymer 500214-08-4P, Diisobutylene-ethyl acrylate-vinylimidazole copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(corrosion inhibitors; amide or imide functionalized polymers as aqueous corrosion inhibitors for metals)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:172980 HCAPLUS
 DOCUMENT NUMBER: 138:205816
 TITLE: Polymeric copper corrosion inhibiting compositions
 INVENTOR(S): Ghosh, Tirthankar; Hann, William M.; Weinstein, Barry
 PATENT ASSIGNEE(S): Rohm and Haas Company, USA
 SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1288232	A2	20030305	EP 2002-255833	200208 21
EP 1288232	A3	20040114	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK	
CA 2398423	A1	20030304	CA 2002-2398423	200208 20
CN 1406988	A	20030402	CN 2002-141604	200209 02
JP 2003176319	A	20030624	JP 2002-256979	200209 02
US 2003065116	A1	20030403	US 2002-234917	200209 04
US 6646082	B2	20031111	US 2001-316291P	P 200109 04
PRIORITY APPLN. INFO.:				

AB A new class of polymeric corrosion inhibiting compns. incorporating pendant heterocyclic groups which are surprisingly effective copper corrosion inhibitors are disclosed. The polymers form a protective

barrier on metallic components to aqueous systems and remain substantive on metallic surfaces over a wide pH range. Moreover, the polymers are resistant to oxidizing biocides, and are substantially impervious to repeated or prolonged exposure to corrosive agents. Thus, modifying a diisobutylene-maleic anhydride copolymer with 1-(3-aminopropyl)imidazole gave a polymeric corrosion inhibitor.

IT 500214-05-1P, Acrylic acid-1-(4-vinylbenzyl)imidazole copolymer

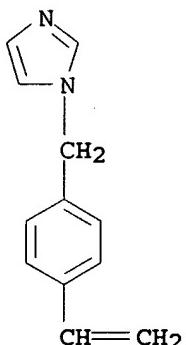
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(inhibitor; manufacture of polymeric copper corrosion inhibiting compns. for copper)

RN 500214-05-1 HCAPLUS

CN 2-Propenoic acid, polymer with 1-[(4-ethenylphenyl)methyl]-1H-imidazole (9CI) (CA INDEX NAME)

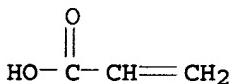
CM 1

CRN 78430-91-8
CMF C12 H12 N2



CM 2

CRN 79-10-7
CMF C3 H4 O2



IC ICM C08F022-40
ICS C23F011-173

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 56

IT 107-85-7DP, reaction products with succinic anhydride copolymers and aminopropylimidazole 107-95-9DP, β -Alanine, reaction products with succinic anhydride copolymers and aminopropylimidazole 111-86-4DP, n-Octylamine, reaction products with succinic anhydride copolymers and aminopropylimidazole 288-32-4DP, Imidazole, reaction products with unsatd. polymers 5036-48-6DP, 1-(3-Aminopropyl)imidazole, imidized with succinic anhydride

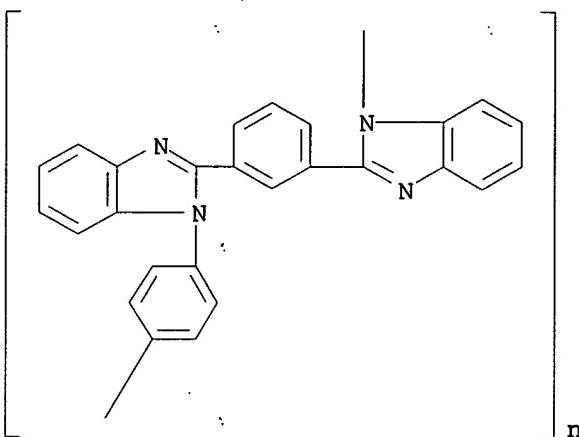
copolymers 6338-55-2DP, Triethylene glycol monoamine, reaction products with succinic anhydride copolymers and aminopropylimidazole 9003-49-0DP, Butyl acrylate polymer, imidazole derivative 9011-07-8DP, Maleic anhydride-vinyl acetate copolymer, imidized with aminopropylimidazole and optionally with other amine 9011-13-6DP, Maleic anhydride-styrene copolymer, imidized with aminopropylimidazole and optionally with other amine 13364-16-4DP, 2-Methyl-1-pentylamine, reaction products with succinic anhydride copolymers and aminopropylimidazole 24937-72-2DP, Maleic anhydride polymer, imidized with aminopropylimidazole and optionally with other amine 25119-83-9DP, Acrylic acid;butyl acrylate copolymer, reaction products with aminopropylimidazole 26298-63-5DP, Butyl vinyl ether-maleic anhydride copolymer, imidized with aminopropylimidazole and optionally with other amine 29697-06-1DP, 2-Methoxyethyl vinyl ether-maleic anhydride copolymer, imidized with aminopropylimidazole and optionally with other amine 34229-21-5DP, Diisobutylene-maleic anhydride copolymer, hydrolyzed, amidized with aminopropylimidazole and optionally with other amine 34229-21-5DP, Diisobutylene-maleic anhydride copolymer, imidized with aminopropylimidazole and optionally with other amine 52229-50-2DP, Gantrez AN 119, imidized with aminopropylimidazole and optionally with other amine 106209-33-0DP, SMA 1000, imidized with aminopropylimidazole and optionally with other amine 146915-07-3DP, Limonene-maleic anhydride copolymer, imidized with aminopropylimidazole and optionally with other amine 500214-05-1P, Acrylic acid-1-(4-vinylbenzyl)imidazole copolymer 500214-06-2P, Acrylic acid-1-acrylobenzotriazole copolymer 500214-07-3P, Allylimidazole-maleic anhydride copolymer 500214-08-4P, Diisobutylene-ethyl acrylate-vinylimidazole copolymer 500218-85-9P 500218-86-0P 500218-88-2P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (inhibitor; manufacture of polymeric copper corrosion inhibiting compns. for copper)

L21 ANSWER 4 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2000:805299 HCAPLUS
 DOCUMENT NUMBER: 134:131896
 TITLE: N-phenyl-substituted polybenzimidazoles based on aromatic diamines and imidoyl chlorides of mono- and dicarboxylic acids
 AUTHOR(S): Tonevitskii, Yu. V.; Mognonov, D. M.; Sanzhizhapov, D. B.; Doroshenko, Yu. E.; Khakhinov, V. V.; Samsonova, V. G.; Botoeva, S. O.
 CORPORATE SOURCE: Buryat State University, Ulan-Ude, 670000, Russia
 SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A i Seriya B (2000), 42(6), 1054-1059
 CODEN: VSSBEE; ISSN: 1023-3091
 PUBLISHER: MAIK Nauka
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB N-Phenyl-substituted polybenzimidazoles have been synthesized using a two-stage oxidative cyclopolycondensation of bis(diphenylimidoyl chlorides) and aromatic diamines. The resulting polybenzimidazoles are characterized by a good solubility in organic solvents and high heat resistance. Considerable difference between the softening and decomposition onset temps. observed for the polymers allow one to prepare films and molding materials exhibiting good mech. properties.

IT 52278-03-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)(N-phenyl-substituted polybenzimidazoles based on aromatic diamines
and imidoyl chlorides of mono-and dicarboxylic acids)

RN 52278-03-2 HCPLUS

CN Poly(1H-benzimidazole-1,2-diyl-1,3-phenylene-1H-benzimidazole-2,1-
diyl-1,4-phenylene) (9CI) (CA INDEX NAME)

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37, 38

IT 40935-70-4P 40935-71-5P 52278-03-2P 321661-69-2P

321661-71-6P 321661-73-8P 321661-76-1P 321661-78-3P

321661-80-7P 321661-81-8P 321661-83-0P

321661-84-1P 321661-86-3P 321661-89-6P 321661-90-9P

321661-91-0P 321661-92-1P 321991-23-5P 321991-26-8P

321991-28-0P 321994-14-3P 321994-15-4P 321994-16-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)(N-phenyl-substituted polybenzimidazoles based on aromatic diamines
and imidoyl chlorides of mono-and dicarboxylic acids)

L21 ANSWER 5 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:784849 HCPLUS

DOCUMENT NUMBER: 123:170505

TITLE: Properties of poly(N-arylenebenzimidazoles) and
their preparation by aromatic nucleophilic
displacementINVENTOR(S): Connell, John W.; Hergenrother, Paul M.; Smith,
Joseph G. Jr.PATENT ASSIGNEE(S): United States National Aeronautics and Space
Administration, USASOURCE: U.S., 13 pp.
CODEN: USXXAMDOCUMENT TYPE: Patent
LANGUAGE: English

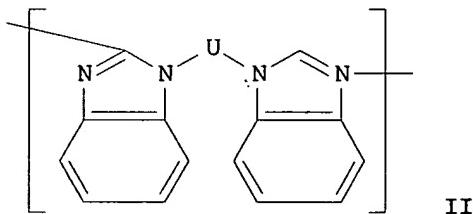
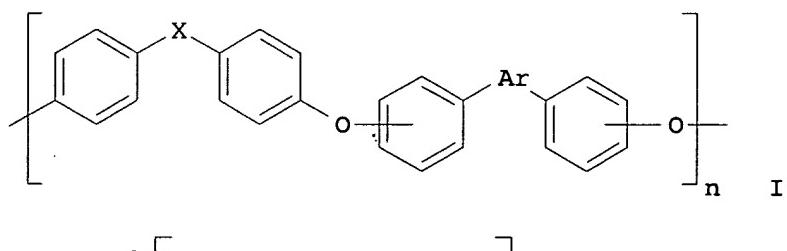
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5410012	A	19950425	US 1993-45339	
				199303
				05
US 5554715	A	19960910	US 1995-375334	
				199501
				17
PRIORITY APPLN. INFO.:			US 1993-45339	A3
				199303
				05

GI



AB Novel poly(N-arylenebenzimidazoles) were prepared by aromatic nucleophilic displacement reaction of di(hydroxyphenyl-N-arylenebenzimidazole) monomers with activated aromatic dihalides or activated aromatic dinitro compds. in polar aprotic solvents (e.g., N-methyl-2-pyrrolidinone or DMF using alkali bases in N2 at elevated temperature). The di(hydroxyphenyl-N-arylenebenzimidazole) monomers are synthesized by reacting phenyl-4-hydroxybenzoate with bis(2-aminoanilino)arylenes in di-Ph sulfone. The polybenzimidazoles are of general formula I, in which the catenation of O is meta-meta, para-para, or para-meta, and Ar is II [U is a radical selected from 1,4-phenylene, 1,3-phenylene, or C6H4YC6H4 (Y = CH2, CO, S, O, SO2, or 9,9-difluorenylene)], and X = CO, SO2, isophthaloyl, terephthaloyl, and aromatic diketo substituents.

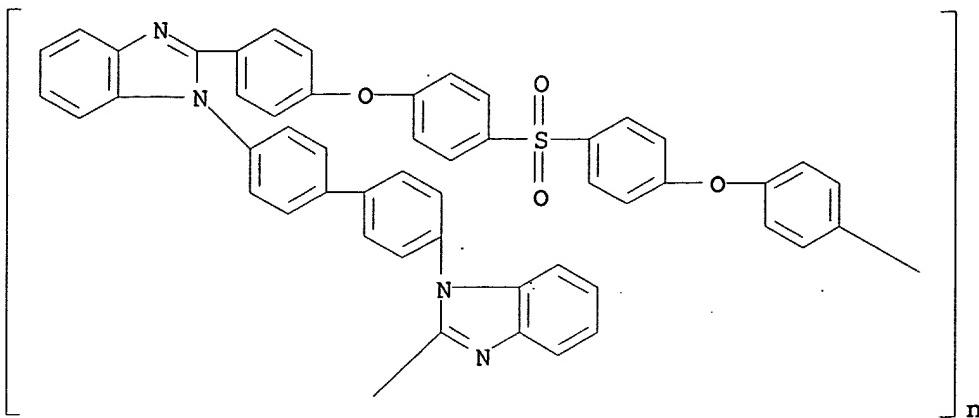
IT 151967-29-2P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(properties of poly(N-arylenebenzimidazoles) and their preparation by aromatic nucleophilic displacement)

RN 151967-29-2 HCAPLUS

CN Poly(1H-benzimidazole-2,1-diyl[1,1'-biphenyl]-4,4'-diyl-1H-benzimidazole-1,2-diyl-1,4-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,4-phenylene) (9CI) (CA INDEX NAME)



IC ICM C08G073-18

INCL 528125000

CC 35-1 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 25

IT 151967-29-2P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(properties of poly(N-arylenebenzimidazoles) and their preparation by aromatic nucleophilic displacement)

IT 151967-28-1P 151967-30-5P 151967-31-6P

151967-32-7P 151967-33-8P 151967-34-9P

151989-30-9P 167546-90-9P 167546-91-0P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(properties of poly(N-arylenebenzimidazoles) and their preparation by aromatic nucleophilic displacement)

L21 ANSWER 6 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:218705 HCAPLUS

DOCUMENT NUMBER: 120:218705

TITLE: Synthesis and properties of poly[arylene ether (N-arylene benzimidazoles)]

AUTHOR(S): Smith, J. G., Jr.; Connell, J. W.; Hergenrother, P. M.

CORPORATE SOURCE: Langley Res. Cent., NASA, Hampton, VA, 23665-5225, USA

SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1992), 33(1), 1098-100

CODEN: ACPPAY; ISSN: 0032-3934

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The reactions of 1,4-bis(2-aminoanilino)benzene and 4,4'-bis(2-aminoanilino)biphenyl with Ph 4-hydroxybenzoate gave 55-75% yields of the monomers 1,1'-(1,4-phenylene)-bis[2-(4-hydroxyphenyl)benzimidazole] (I) and 1,1'-(4,4'-biphenylene)-bis[2-(4-hydroxyphenyl)benzimidazole] (II). Poly[arylene ether (N-arylene benzimidazoles)] were prepared via the nucleophilic displacement reaction of I and II with an activated aromatic difluoride. Chain extension through the benzimidazole nitrogen avoided hydrogen bonding and had a pronounced effect on the chemical, phys. and mech.

IT properties of the polymers.

151938-41-9P, 1,1'-(1,4-Phenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorodiphenyl sulfone copolymer
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and properties of)

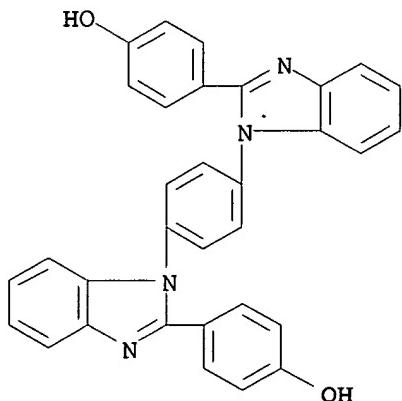
RN 151938-41-9 HCPLUS

CN Phenol, 4,4'-[1,4-phenylenebis(1H-benzimidazole-1,2-diyl)]bis-, polymer with 1,1'-sulfonylbis[4-fluorobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 151938-40-8

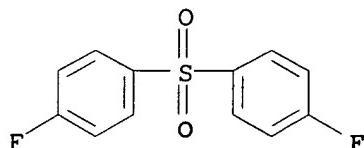
CMF C32 H22 N4 O2



CM 2

CRN 383-29-9

CMF C12 H8 F2 O2 S



CC 35-5 (Chemistry of Synthetic High Polymers)

IT 151938-41-9P, 1,1'-(1,4-Phenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorodiphenyl sulfone copolymer
 151938-43-1P, 1,4-Bis(4-fluorobenzoyl)benzene-1,1'-(4,4'-biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole] copolymer
 151938-44-2P, 1,4-Bis(4-fluorobenzoyl)benzene-1,1'-(1,4-phenylene)bis[2-(4-hydroxyphenyl)benzimidazole] copolymer
 151938-45-3P, 1,3-Bis(4-fluorobenzoyl)benzene-1,1'-(4,4'-biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole] copolymer
 151938-46-4P, 1,3-Bis(4-fluorobenzoyl)benzene-1,1'-(1,4-phenylene)bis[2-(4-hydroxyphenyl)benzimidazole] copolymer
 151938-50-0P, 1,1'-(4,4'-Biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorodiphenyl sulfone copolymer

151965-82-1P, 1,1'-(4,4'-Biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorobenzophenone copolymer
 151965-83-2P, 1,1'-(1,4-Phenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorobenzophenone copolymer
 151967-28-1P, 1,1'-(1,4-Phenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorodiphenyl sulfone copolymer, SRU 151967-29-2P, 1,1'-(4,4'-Biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorodiphenyl sulfone copolymer, SRU 151967-30-5P, 1,1'-(4,4'-Biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorobenzophenone copolymer, SRU 151967-31-6P, 1,1'-(1,4-Phenylene)bis[2-(4-hydroxyphenyl)benzimidazole]-4,4'-difluorobenzophenone copolymer, SRU 151967-32-7P 151967-33-8P
 151967-34-9P, 1,3-Bis(4-fluorobenzoyl)benzene-1,1'-(4,4'-biphenylene)bis[2-(4-hydroxyphenyl)benzimidazole] copolymer, SRU 151989-30-9P, 1,3-Bis(4-fluorobenzoyl)benzene-1,1'-(1,4-phenylene)bis[2-(4-hydroxyphenyl)benzimidazole] copolymer, SRU
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and properties of)

L21 ANSWER 7 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:135682 HCAPLUS

DOCUMENT NUMBER: 120:135682

TITLE: Structure and properties of poly(naphthoyleimidobenzimidazole)-poly(quinazolonebenzimidazole) block copolymers

AUTHOR(S): Nikol'skii, O. G.; Ponomarev, I. I.; Perov, N. S.; Martirosov, V. A.; Zhukov, V. P.; Obolonkova, E. S.; Bulkin, A. F.; Zakharov, A. V.; Skuratova, N. A.; Rusanov, A. L.

CORPORATE SOURCE: Inst. Synth. Polym. Mater., Moscow, 117393, Russia

SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A (1993), 35(9), 1473-9

CODEN: VYSAAF; ISSN: 0507-5475

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The structure and properties of poly(naphthoyleimidobenzimidazole), poly(quinazolonebenzimidazole), their blends, and their block copolymer were studied. The polymers exhibited heterogeneous structure with uniform distribution of anisotropic formations. Anal. of dielec. and mech. relaxation data of polymer films, untreated and thermally treated, indicates that the presence of low-mol.-weight polar admixts. affects relaxation processes leading to high-level mol. mobility at low and high temps. Large-scale mol. mobility over the wide temperature range of β' -relaxation is possible. The films exhibit high stability under thermomech. testing. Polymers with high deformation-strength and elastic properties can be obtained by varying the length of blocks.

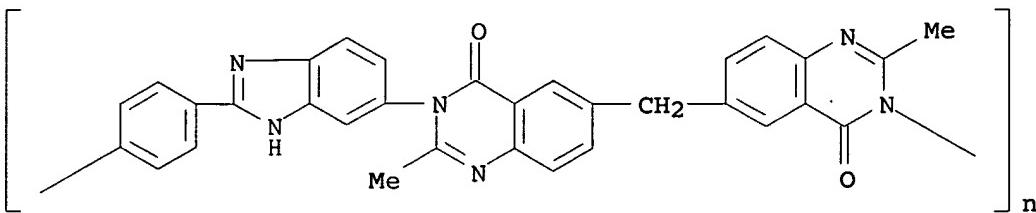
IT 153144-77-5

RL: PRP (Properties)

(structure and properties of)

RN 153144-77-5 HCAPLUS

CN Poly[(2-methyl-4-oxo-3,6(4H)-quinazolinediyl)methylene(2-methyl-4-oxo-6,3(4H)-quinazolinediyl)-1H-benzimidazole-5,2-diyl-1,4-phenylene] (9CI) (CA INDEX NAME)

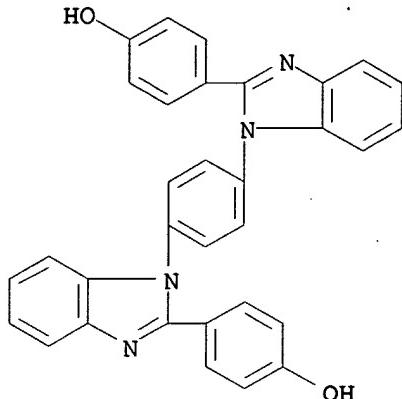


CC 36-5 (Physical Properties of Synthetic High Polymers)
 IT 117955-19-8 117955-19-8 153144-77-5
 RL: PRP (Properties)
 (structure and properties of)

L21 ANSWER 8 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:31372 HCAPLUS
 DOCUMENT NUMBER: 120:31372
 TITLE: Synthesis and properties of poly[arylene ether (N-arylenebenzimidazole)s]
 AUTHOR(S): Smith, J. G., Jr.; Connell, J. W.; Hergenrother, P. M.
 CORPORATE SOURCE: Langley Res. Cent., NASA, Hampton, VA, 23681-0001, USA
 SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (1993), 31(12), 3099-108
 CODEN: JPACEC; ISSN: 0887-624X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Poly(arylene ether)s containing N-arylenebenzimidazole groups were prepared by the aromatic nucleophilic displacement of two new bis(hydroxyphenyl-N-arylenebenzimidazole)s with activated aromatic difluorides in sulfolane at 200°C in the presence of anhydrous potassium carbonate. The bis(hydroxyphenyl-N-arylenebenzimidazole)s were prepared from bis(o-aminoanilino)arylenes and Ph 4-hydroxybenzoate. The polymers were soluble in N-methyl-2-pyrrolidinone and m-cresol and exhibited inherent viscosities from 0.37-0.86 dL/g and glass transition temps. from 219-289°C. Thermogravimetric analyses showed 5% weight losses from 463-506°C in air and 467-522°C in nitrogen. Unoriented thin films exhibited tensile strengths, moduli, and break elongations at 23°C of 10.2-12.5 ksi, 318-365 ksi, and 4-7%, resp., and at 177°C of 5.1-6.9 ksi, 256-296 ksi, and 1-5%, resp. A 50:50 random copolymer prepared from 1,3-bis(4-fluorobenzoyl)benzene, 1,1'-(4,4'-biphenylene)-bis[2-(4-hydroxyphenyl)benzimidazole], and 5,5'-bis[2-(4-hydroxyphenyl)benzimidazole] exhibited higher moisture absorption and lower tensile properties than those predicted by a rule of mixts. relationship. The chemical, phys., and mech. properties of these polymers are discussed.
 IT 151938-41-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and properties of)
 RN 151938-41-9 HCAPLUS
 CN Phenol, 4,4'-[1,4-phenylenebis(1H-benzimidazole-1,2-diyl)]bis-, polymer with 1,1'-sulfonylbis[4-fluorobenzene] (9CI) (CA INDEX NAME)

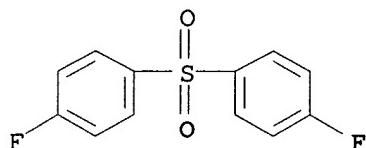
CM 1

CRN 151938-40-8
 CMF C32 H22 N4 O2



CM 2

CRN 383-29-9
 CMF C12 H8 F2 O2 S



CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 36
 IT 151938-41-9P 151938-43-1P 151938-44-2P
 151938-45-3P 151938-46-4P 151938-47-5P
 151938-48-6P 151938-49-7P, 1,1'-(4,4'-Biphenylene)-
 bis[2-(4-hydroxyphenyl)benzimidazole]-5,5'-bis[2-(4-
 hydroxyphenyl)benzimidazole])-1,3-bis(4-fluorobenzoyl)benzene
 copolymer 151938-50-0P 151965-82-1P
 151965-83-2P 151967-28-1P 151967-29-2P
 151967-30-5P 151967-31-6P 151967-32-7P
 151967-33-8P 151967-34-9P 151967-35-0P
 151989-30-9P 151989-31-0P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (preparation and properties of)

L21 ANSWER 9 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1993:494691 HCPLUS
 DOCUMENT NUMBER: 119:94691
 TITLE: Phase-transfer reactions catalyzed by
 polymer-supported imidazoles
 AUTHOR(S): Kondo, Shuji; Kawasoe, Shinya; Kunisada, Hideo;
 Yuki, Yasuo
 CORPORATE SOURCE: Dep. Mater. Sci. Eng., Nagoya Inst. Technol.,

SOURCE: Nagoya, 466, Japan
 Journal of Macromolecular Science, Pure and Applied Chemistry (1993), A30(6-7), 413-21
 CODEN: JSPCE6; ISSN: 1060-1325

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Polymer-supported imidazoles were prepared by copolymer. of N-vinylimidazole or N-p-vinylbenzylimidazole, styrene, and divinylbenzene with AIBN. The resulting polymers accelerated the reaction of octyl bromide with potassium thiocyanate and the alkylation of an active methylene compound, benzyl cyanide, under phase-transfer conditions. The latter catalytic reaction afforded monoalkylated compound exclusively, although dialkylated compound was also obtained in monomeric alkylimidazole catalyzed reaction. Further, these polymers served as phase-transfer catalysts for the reduction of acetophenone by sodium borohydride. The relationship between the structure and catalytic activity, and the factors governing these catalytic reactions were examined

IT 108910-37-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and phase-transfer catalytic activity of)

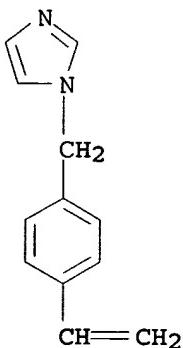
RN 108910-37-8 HCPLUS

CN 1H-Imidazole, 1-[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 78430-91-8

CMF C12 H12 N2



CC 21-2 (General Organic Chemistry)
 Section cross-reference(s): 35

IT 25232-42-2P, Poly(N-vinylimidazole) 60755-40-0P

108910-37-8P 148695-66-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and phase-transfer catalytic activity of)

L21 ANSWER 10 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:123918 HCPLUS

DOCUMENT NUMBER: 114:123918

TITLE: Thermosetting resin compositions with good storage stability

INVENTOR(S): Endo, Takeshi; Tokuda, Hiroyuki; Hosoda, Atsushi; Tashiro, Namyuki

PATENT ASSIGNEE(S) : Dainippon Ink and Chemicals, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02227419	A	19900910	JP 1989-47378	198902 28

PRIORITY APPLN. INFO.: JP 1989-47378

198902
28

AB The title compns. giving impact-resistant cured products with good flexibility contain onium salts of polymers and cationically polymerizable organic compds. Thus, 100 parts bisphenol A diglycidyl ether was mixed with 25 parts 90:10 (mol) butadiene-p-vinylbenzyltetramethylenesulfonium hexafluoroantimonate copolymer to give a thermosetting composition, which was spread on tinplates at 40- μ m thickness, then heated at 160° for 30 min to give test pieces with good adhesion and resistance to Me₂CO and DMF, which showed pencil hardness H, du Pont impact resistance 45 kg-cm the surface, and 35 kg-cm the reverse side.

IT 132558-10-2

RL: USES (Uses)

(crosslinked, solvent- and impact-resistant)

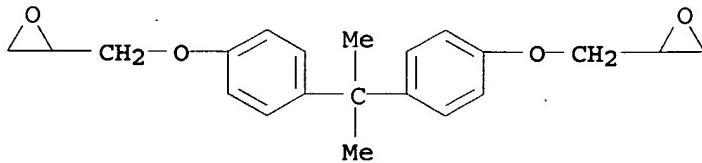
RN 132558-10-2 HCPLUS

CN Antimonate(1-), hexafluoro-, (OC-6-11)-, hydrogen, compd. with 1-[(4-ethenylphenyl)methyl]-1H-imidazole-4,5-dicarbonitrile (1:1), polymer with butyl 2-propenoate and 2,2'-(1-methylethyldene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] (9CI) (CA INDEX NAME)

CM 1

CRN 1675-54-3

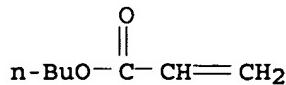
CMF C21 H24 O4



CM 2

CRN 141-32-2

CMF C7 H12 O2



CM 3

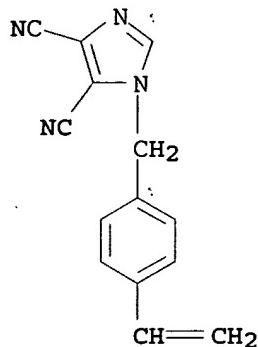
CRN 132558-09-9

CMF C14 H10 N4 . F6 Sb . H

CM 4

CRN 115597-75-6

CMF C14 H10 N4

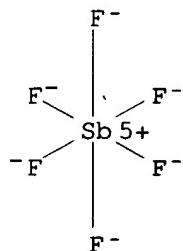


CM 5

CRN 16950-06-4

CMF F6 Sb . H

CCI CCS



● H+

IC ICM C08G059-40

CC 37-6 (Plastics Manufacture and Processing)

IT 132558-05-5 132558-06-6 132558-07-7 132558-10-2

132558-12-4 132558-13-5 132558-15-7 132558-16-8 132558-17-9
 132558-18-0 132558-19-1 132558-20-4 132558-21-5 132588-30-8
 132588-31-9

RL: USES (Uses)

(crosslinked, solvent- and impact-resistant)

IT 132538-47-7 132538-50-2 132538-53-5 132538-56-8 132538-59-1
 132538-60-4 132538-61-5 132538-62-6 132558-22-6 132558-23-7
 132558-24-8 132558-25-9 132558-26-0 132558-27-1
 132558-28-2

RL: USES (Uses)

(thermosetting compns., with bisphenol A diglycidyl ether, with long pot life)

L21 ANSWER 11 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:515979 HCAPLUS

DOCUMENT NUMBER: 113:115979

TITLE: Polymers containing cyanoimidazole pendant groups

AUTHOR(S): Allan, David S.; Thurber, Ernest L.; Rasmussen, Paul G.

CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109, USA

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (1990), 28(9), 2475-83
CODEN: JPACEC; ISSN: 0887-624X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Styrene dicyanoimidazole derivs. were polymerized to prepare polymers containing electron-accepting pendant groups to complement the existing body of electron-donating polymers. The preparation of 4,5-dicyano-1-(vinylbenzyl)imidazole (I), I homopolymer, 9-(vinylbenzyl)carbazole-I copolymer, and the attempted polymerization of 4,5-dicyano-1-vinylimidazole are described. Cyclic voltammetry and charge transfer studies are used to characterize the electron-accepting strength of the cyanoimidazole model compds. These studies show that while cyanoimidazoles are moderate electron acceptors, they do not form charge transfer complexes with the donor mols. investigated.

IT 129080-38-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and electron-accepting behavior of)

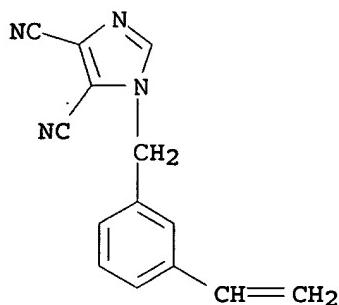
RN 129080-38-2 HCAPLUS

CN 1H-Imidazole-4,5-dicarbonitrile, 1-[(3-ethenylphenyl)methyl]-, polymer with 1-[(4-ethenylphenyl)methyl]-1H-imidazole-4,5-dicarbonitrile (9CI) (CA INDEX NAME)

CM 1

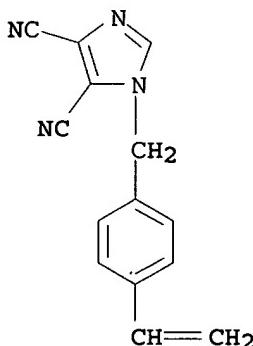
CRN 129080-37-1

CMF C14 H10 N4



CM 2

CRN 115597-75-6
 CMF C14 H10 N4



CC 35-4 (Chemistry of Synthetic High Polymers)
 IT 129080-38-2P 129080-39-3P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and electron-accepting behavior of)

L21 ANSWER 12 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1990:460528 HCPLUS
 DOCUMENT NUMBER: 113:60528
 TITLE: The chemical stability, under alkaline conditions, of substituted imidazoline resins and their model compounds
 AUTHOR(S): Schwellnus, A. H.; Green, B. R.
 CORPORATE SOURCE: Mintek, Randburg, 2125, S. Afr.
 SOURCE: Reactive Polymers (1990), 12(2), 167-76
 CODEN: REPLEN; ISSN: 0923-1137
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Imidazoline, a highly basic amine, was employed as a functional group in weak-base resins that were prepared for the extraction of gold cyanide from alkaline cyanide leach liquors. The chemical stability of the resins and their model compds. under these conditions was investigated. When the imidazoline group was attached to an acrylonitrile and a polystyrene matrix, it hydrolyzed slowly to form an amide group. The attachment of lysidine to a polystyrene matrix

yielded a resin in which the hydrolysis product underwent a second hydrolysis to form an alkylamine group on the resin. The relative rates of hydrolysis of the resins were confirmed by NMR spectroscopy of the hydrolysis reactions of model compds., i.e., lysidine, benzylimidazoline, and benzyllysidine. The hydrolysis products were the same as those for the resins; the rates of hydrolysis for the different structures increased in the order lysidine < benzylimidazoline < benzyllysidine. The model compds. were more rapidly hydrolyzed than the resins, e.g., 50% of the functional groups of the acrylonitrile-based imidazoline resin hydrolyzed during four years of contact with an alkaline solution, whereas the model compound of this resin hydrolyzed completely over a period of 320 h.

IT 128466-19-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrolysis of, pH effect on, gold cyanide extraction in relation to)

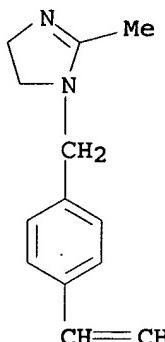
RN 128466-19-3 HCPLUS

CN 1H-Imidazole, 1-[(4-ethenylphenyl)methyl]-4,5-dihydro-2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 128466-18-2

CMF C13 H16 N2



CC 37-5 (Plastics Manufacture and Processing)

IT 128466-15-9 128466-17-1 128466-19-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(hydrolysis of, pH effect on, gold cyanide extraction in relation to)

L21 ANSWER 13 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:204624 HCPLUS

DOCUMENT NUMBER: 112:204624

TITLE: New imidazole- and pyrazole-containing chemisorbents for selective sorption of uric acid

AUTHOR(S): Matsoyan, M. S.; Galstyan, L. R.; Tserunyan, V. V.; Saakyan, L. A.; Chukhadzhyan, G. A.; Gabrielyan, E. S.

CORPORATE SOURCE: Erevan. Gos. Univ., Yerevan, USSR
SOURCE: Armyanskii Khimicheskii Zhurnal (1989), 42(8), 532-5

DOCUMENT TYPE: CODEN: AYKZAN; ISSN: 0515-9628

LANGUAGE: Journal

AB Imidazole and pyrazole groups-containing chemisorbents selective for uric acid were prepared by treatment of chloromethylated divinylbenzene-styrene copolymer with imidazole, benzylimidazole, and methylpyrazole or by polymerization of imidazolylstyrene or dimethylvinylpyrazole. The sorbents were selective for uric acid in blood and did not absorb other components of the blood.

IT 126814-92-4

RL: BIOL (Biological study)

(sorbents, for uric acid in blood, preparation and properties of)

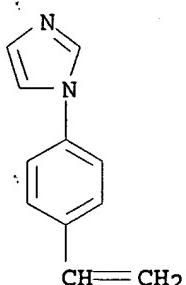
RN 126814-92-4 HCPLUS

CN 1H-Imidazole, 1-(4-ethenylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 126814-91-3

CMF C11 H10 N2



CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 37

IT 288-32-4D, Imidazole, reaction products with chloromethylated divinylbenzene-styrene copolymer 1453-58-3D, reaction products with chloromethylated divinylbenzene-styrene copolymer 4238-71-5D, 1-Benzylimidazole, reaction products with chloromethylated divinylbenzene-styrene copolymer 9003-70-7D, Divinylbenzene-styrene copolymer, chloromethylated, reaction products with imidazoles or methylpyrazole 12642-25-0D, AV 17 + 8, reaction products with imidazoles in methylpyrazole 108891-16-3
126814-92-4

RL: BIOL (Biological study)

(sorbents, for uric acid in blood, preparation and properties of)

L21 ANSWER 14 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1988:474027 HCPLUS

DOCUMENT NUMBER: 109:74027

TITLE: Polymers containing electron accepting groups

AUTHOR(S): Rasmussen, P. G.; Allan, D. S.; Apen, P. G.; Thurber, E. L.

CORPORATE SOURCE: Dep. Chem., Univ. Michigan, Ann Arbor, MI, 48109, USA

SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1988), 29(1), 325-6

CODEN: ACPPAY; ISSN: 0032-3934

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A number of cyanoimidazole derivs. showed a good correlation between

the reduction potentials and the energies of the lowest unoccupied mol. orbitals as calculated using extended Hueckel methods.

1-(4-Vinylbenzyl)-4,5-dicyanoimidazole polymerized smoothly under free radical conditions to a white, film-forming polymer with intrinsic viscosity 0.29 dL/g.

IT 115597-76-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and properties of)

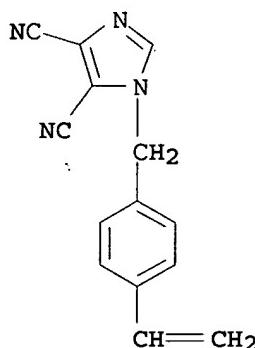
RN 115597-76-7 HCPLUS

CN 1H-Imidazole-4,5-dicarbonitrile, 1-[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 115597-75-6

CMF C14 H10 N4



CC 35-7 (Chemistry of Synthetic High Polymers)

IT 115597-76-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and properties of)

L21 ANSWER 15 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:424101 HCPLUS

DOCUMENT NUMBER: 107:24101

TITLE: Imidazole-containing polystyrene resins as selective hemosorbents for sodium barbital

AUTHOR(S): Chukhadzhyan, G. A.; Matsoyan, M. S.; Galstyan, L. R.; Tserunyan, V. V.; Saakyan, L. A.; Gabrielyan, E. S.

CORPORATE SOURCE: Erevan. Gos. Univ., Yerevan, USSR

SOURCE: Armyanskii Khimicheskii Zhurnal (1986), 39(12), 755-9

DOCUMENT TYPE: CODEN: AYKZAN; ISSN: 0515-9628

LANGUAGE: Journal Russian

AB Imidazole group-containing hemosorbents selective for Na barbital (I) were prepared by treatment of chloromethylated divinylbenzene-styrene copolymer with imidazole or 1-benzylimidazole or by alkylating imidazole with (2-bromoethyl)-4-chlorobenzene and subsequently dehydrobrominating and polymerizing the (2-bromoethyl)-4-(n-imidazolylmethyl)benzene formed. The linear polymer was applied as

a coating on activated C to give the sorbent. The sorbents were selective for I in blood and did not sorb other components of the blood.

IT 108910-37-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(sorbents, on activated carbon, for sodium barbital in blood,
preparation and properties of)

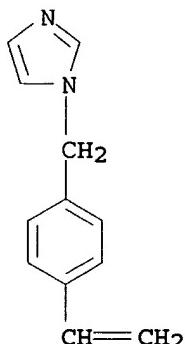
RN 108910-37-8 HCPLUS

CN 1H-Imidazole, 1-[(4-ethenylphenyl)methyl]-, homopolymer (9CI) (CA
INDEX NAME)

CM 1

CRN 78430-91-8

CMF C12 H12 N2



CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 63

IT 108910-37-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(sorbents, on activated carbon, for sodium barbital in blood,
preparation and properties of)

L21 ANSWER 16 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1986:609592 HCPLUS

DOCUMENT NUMBER: 105:209592

TITLE: Imidazolinone-containing polymers and copolymers

INVENTOR(S): Rasmussen, Jerald K.; Katritzky, Alan R.;

Krepski, Larry R.; Smith, Howell K., II;

Heilmann, Steven M.; Sakizadeh, Kumars

PATENT ASSIGNEE(S): Minnesota Mining and Manufacturing Co., USA

SOURCE: Eur. Pat. Appl., 35 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 185493	A2	19860625	EP 1985-308898	198512 06

EP 185493	A3	19881130		
EP 185493	B1	19930728		
R: CH, DE, FR, GB, IT, LI				
US 4667012	A	19870519	US 1984-681553	
				198412
				14
JP 61143432	A	19860701	JP 1985-278133	
				198512
US 4785070	A	19881115	US 1987-14875	
				12
PRIORITY APPLN. INFO.:			US 1984-681553	A
				198702
				17
				198412
				14

AB Water-soluble polyamides containing 2-imidazolin-5-one rings in the polymer backbone are prepared by condensation of bisazlactones with hydroxy- or mercaptoamines or diamines and optionally other monomers, followed by acid- or base-catalyzed cyclodehydration. The polymers are useful in water treatment, and paper and fabric sizing applications (no data). Thus, a polyamide of 2,2'-tetramethylenebis(4,4-dimethyloxazolin-5-one) (I) and triethylene tetramine (II) was prepared by adding 0.02 mol II to 0.02 I in DMF at room temperature and stirring for 22 h. The polymer could be cyclized completely by heating in vacuo to 180-190° over 2 h, or partially by dissolvn. in DMF and heating at 140° for 4 h.

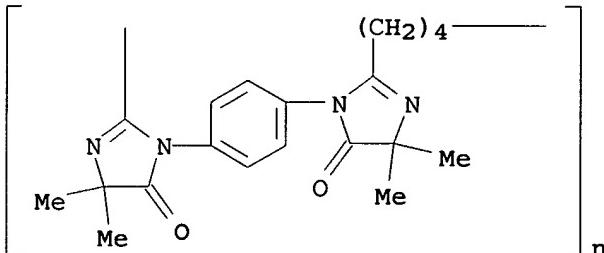
IT 104867-82-5P

RL: PREP (Preparation)

(preparation of, by cyclodehydration of polyamides formed from bisazlactones)

RN 104867-82-5 HCPLUS

CN Poly[(4,5-dihydro-4,4-dimethyl-5-oxo-1H-imidazole-2,1-diyl)-1,4-phenylene(4,5-dihydro-4,4-dimethyl-5-oxo-1H-imidazole-1,2-diyl)-1,4-butanediyl] (9CI) (CA INDEX NAME)



IC ICM C08G073-06

ICS C08G069-00; C08G069-48

CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 28

IT 104867-77-8P 104867-78-9P 104867-79-0P 104867-80-3P
104867-81-4P 104867-82-5P

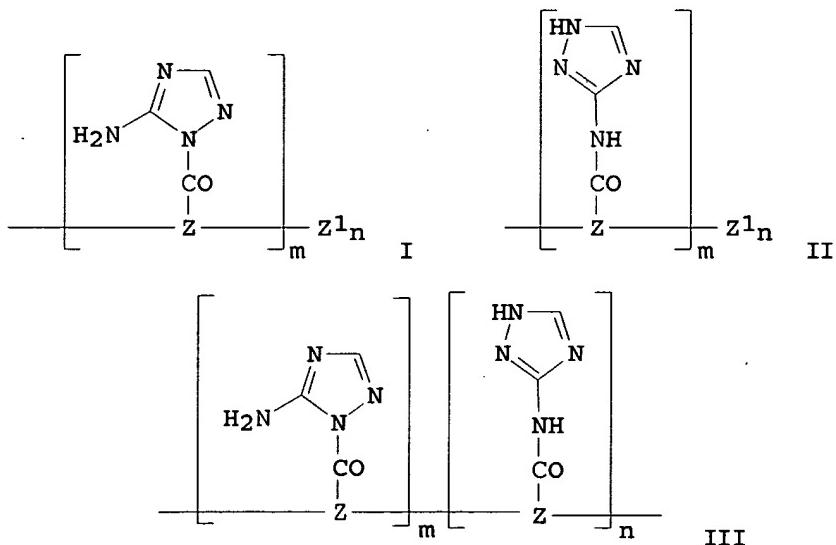
RL: PREP (Preparation)

(preparation of, by cyclodehydration of polyamides formed from bisazlactones)

DOCUMENT NUMBER: 104:163728
 TITLE: Polymeric triazole herbicides
 INVENTOR(S): Wermann, Kurt; Bauer, Hans Juergen; Hartmann, Manfred; Globig, Gerlinde; Schwarz, Guenter; Seewald, Ingrid
 PATENT ASSIGNEE(S): VEB Fahlberg-List, Ger. Dem. Rep.
 SOURCE: Ger. (East), 20 pp.
 CODEN: GEXXA8
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 224203	A1	19850703	DD 1984-262004	198404 16
PRIORITY APPLN. INFO.:			DD 1984-262004	198404 16

GI



AB Copolymers of 1-acyl-5-amino-1,2,4-triazoles I and 3-acylamino-1,2,4-triazoles II ($Z = \text{CH}_2\text{CH}$, CH_2CMe , $\text{CH}_2\text{CHC}_6\text{H}_4$, etc.; $Z_1 = \text{styrene}$, vinyl acetate, acrylate, Me methacrylate, etc., comonomers) and I-II copolymers III (Z and $Z_1 = \text{CH}_2\text{CMe}$, $\text{CH}_2\text{CHC}_6\text{H}_4$, CH_2CH) are controlled-release herbicides. Compared to the corresponding monomer herbicides, the polymers show higher stability. Thus, in pot expts., under extreme conditions of climate, pre-emergence I ($Z = \text{CH}_2\text{CHCH}_2\text{CH}_2$, $Z_1 = \text{vinyl acetate}$) (6 kg/ha) totally-controlled *Medicago sativa*, *Sinapis alba* and other

species, whereas Amitrole was less effective.

IT 96611-16-4

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses) (herbicides, controlled release)

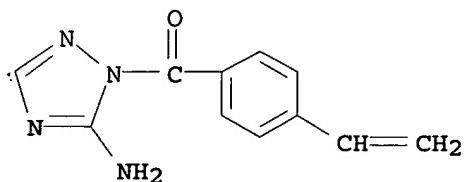
RN 96611-16-4 HCAPLUS

CN 1H-1,2,4-Triazol-5-amine, 1-(4-ethenylbenzoyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 86355-75-1

CMF C11 H10 N4 O



IC ICM A01N037-18

ICS A01N043-64; A01N025-08

CC 5-3 (Agrochemical Bioregulators)

IT	84410-45-7	84410-46-8	84410-47-9	84410-48-0	84410-49-1
	84410-50-4	84410-51-5	84410-52-6	86355-75-1	86355-76-2
	86355-77-3	86355-79-5	86355-80-8	86355-81-9	96611-16-4
	96611-17-5	96611-18-6	96611-19-7	96611-20-0	96611-21-1
	99616-97-4	99616-98-5	99616-99-6	99617-00-2	99617-01-3
	99617-02-4	99617-03-5	99617-04-6	99617-05-7	99617-06-8
	99617-19-3	99617-20-6	99617-21-7	99617-22-8	99617-23-9
	99617-24-0	99617-25-1	99617-26-2	99617-27-3	99617-28-4
	99617-29-5	99617-30-8	99617-31-9	99617-32-0	

RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses) (herbicides, controlled release)

L21 ANSWER 18 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:221286 HCAPLUS

DOCUMENT NUMBER: 102:221286

TITLE: Biocidal polymers.. X. Synthesis and hydrolytic behavior of polymers with pendants bound 3-amino-1,2,4-triazole

AUTHOR(S): Hartmann, M.; Kohrs, D.; Wermann, K.

CORPORATE SOURCE: Sekt. Chem., Friedrich-Schiller-Univ., Jena, DDR-6900, Ger. Dem. Rep.

SOURCE: Acta Polymerica (1985), 36(4), 185-7
CODEN: ACPODY; ISSN: 0323-7648

DOCUMENT TYPE: Journal

LANGUAGE: German

AB Biocidal polymers with pendant herbicide groups were prepared by radical homopolymer. of 3-amino-1,2,4-triazole (I) derivs. or their copolymer. with Me methacrylate and styrene, and the release of herbicides by hydrolysis in H₂O at 30° was studied. The release of herbicides by hydrolysis depended on the nature of amide

bonds in polymer-I derivative linkages. The high release of herbicides (48-84%) by hydrolysis of poly[1-(4-vinylbenzoyl)-5-amino-1,2,4-triazole] [96611-16-4], Me methacrylate-1-(4-vinylbenzoyl)-5-amino-1,2,4-triazole copolymer [96611-17-5] and (E)-1-(3-carbomethoxyacryloyl)-5-amino-1,2,4-triazole-styrene copolymer [96611-18-6] was related to the presence of azolide bonds, whereas the low herbicide release (16-29%) of poly[3-(4-vinylbenzoyl)amino-1,2,4-triazole] [96611-19-7], Me methacrylate-3-(4-vinylbenzoyl)amino-1,2,4-triazole copolymer [96611-20-0] and (E)-3-(3-carbomethoxyacryloyl)amino-1,2,4-triazole-styrene copolymer [96611-21-1] was related to the presence of amide bonds in polymer-I derivative linkages.

IT 96611-16-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, herbicide release by)

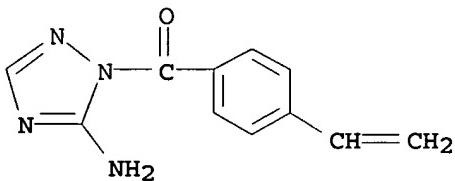
RN 96611-16-4 HCPLUS

CN 1H-1,2,4-Triazol-5-amine, 1-(4-ethenylbenzoyl)-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 86355-75-1

CMF C11 H10 N4 O



CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 5

IT 96611-16-4 96611-17-5 96611-18-6 96611-19-7

96611-20-0 96611-21-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, herbicide release by)

L21 ANSWER 19 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1984:552534 HCPLUS

DOCUMENT NUMBER: 101:152534

TITLE: Linear homopolymer, linear copolymer, and a crosslinked copolymer

INVENTOR(S): Miyake, Tetsuya; Takeda, Kunihiko; Tada, Keishi

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan

SOURCE: Braz. Pedido PI, 33 pp.

CODEN: BPXXDX

DOCUMENT TYPE: Patent

LANGUAGE: Portuguese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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BR 8204150	A	19840221	BR 1982-4150	198207

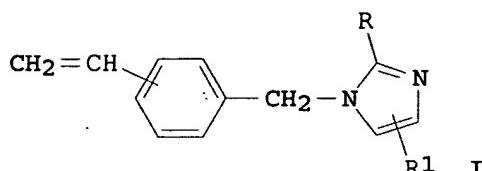
PRIORITY APPLN. INFO.:

BR 1982-4150

16

198207
16

GI



AB The title polymers are prepared by homo- or copolymer. of (imidazolylmethyl)styrenes I (R,R1 = H, C1-17 alkyl, Ph, substituted Ph, naphthyl, aralkyl, pyridyl). The polymers have ion-exchange properties and are useful in extraction of metals. Thus, a solution of 10 g (imidazolylmethyl)styrene (60% m, 40% p) in 20 mL MeOH was mixed with 0.1 g AIBN and heated 20 h at 80° to give a solid polymer [84001-78-5]. Nine other I homopolymers and 47 copolymers were prepared

IT 83952-57-2P

RL: PREP (Preparation)

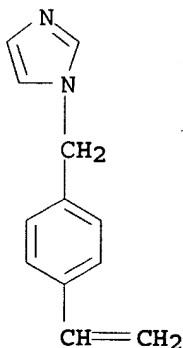
(metal ion-complexing agents, preparation of)

RN 83952-57-2 HCPLUS**CN** 1H-Imidazole, 1-[(3-ethenylphenyl)methyl]-, polymer with ethenylbenzene and 1-[(4-ethenylphenyl)methyl]-1H-imidazole (9CI) (CA INDEX NAME)

CM 1

CRN 78430-91-8

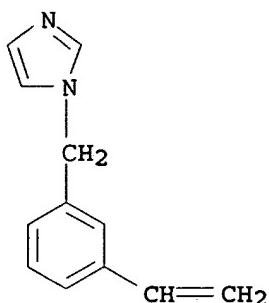
CMF C12 H12 N2



CM 2

CRN 78430-90-7

CMF C12 H12 N2



CM 3

CRN 100-42-5
CMF C8 H8H₂C=CH-Ph

IC C07D233-64; C07D233-58; C07D401-04; C08F026-06; C08J005-20
 CC 35-4 (Chemistry of Synthetic High Polymers)
 IT 83952-57-2P 83952-58-3P 83952-60-7P
 83952-61-8P 83952-62-9P 83952-65-2P
 83952-66-3P 83952-67-4P 83952-68-5P
 83970-12-1P 83970-13-2P 83970-14-3P
 83970-41-6P 83970-44-9P 83970-47-2P
 83970-50-7P 83985-14-2P 83995-60-2P
 83995-61-3P 83995-62-4P 84001-00-3P
 84001-02-5P 84001-04-7P 84001-76-3P
 84001-77-4P 84001-78-5P 84012-68-0P
 84025-14-9P 84025-15-0P 84025-17-2P
 84025-18-3P 84025-19-4P 84025-20-7P
 84025-21-8P 84026-00-6P 84026-61-9P
 84026-62-0P 84026-64-2P 84026-65-3P
 84026-66-4P 84026-68-6P 84026-69-7P
 84026-70-0P 84026-71-1P 84048-33-9P 84048-74-8P
 84049-38-7P 84107-18-6P 89558-23-6P
 89558-24-7P 89593-32-8P 89613-41-2P
 91885-36-8P 91941-20-7P 92009-19-3P
 92076-44-3P
 RL: PREP (Preparation)
 (metal ion-complexing agents, preparation of)

L21 ANSWER 20 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1984:445279 HCPLUS
 DOCUMENT NUMBER: 101:45279
 TITLE: Uranium isotope separation by using novel adsorbents
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59012736	A	19840123	JP 1982-121284	198207 14
JP 03072334	B	19911118	JP 1982-121284	198207 14
PRIORITY APPLN. INFO.:				

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB In an isotope (e.g. U) separation method employing an anion exchanger (adsorbent) and carrying out redox reactions at the interface of a U-adsorbed zone and an adjacent reductant-bearing zone, at the interface of a U-adsorbed zone and an adjacent oxidant-bearing zone, or at both interfaces, the adsorbent is a crosslinked copolymer containing the repeating units I [R,R1 = H, C1-17 alkyl, aryl, aralkyl, pyridyl, NO₂], II [R₂,R₃ = H, Me; Z = substituted phenylene, biphenylene], III [(Z₁ = O, S, NH, alkylene), SO, CO, divalent pyridine, OCNHZZ2NHCO (Z₂ = C1-3 hydrocarbon moiety)], IV [R₄,R₅,R₆ = H, Me; Q = trivalent substituted benzene moiety], and(or) V.

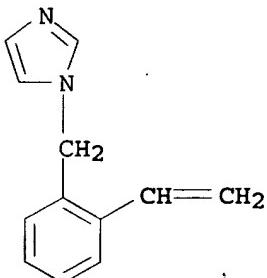
IT 90737-33-0
 RL: PROC (Process)
 (anion exchanger, for isotope separation)

RN 90737-33-0 HCPLUS

CN 1H-Imidazole, 1-[(2-ethenylphenyl)methyl]-, polymer with diethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 90737-32-9
 CMF C12 H12 N2



CM 2

CRN 1321-74-0
 CMF C10 H10
 CCI IDS



2 [D1- CH= CH₂]

IC B01D059-30; B01J020-26; B01J041-04
 CC 71-6 (Nuclear Technology)
 Section cross-reference(s): 38
 IT 9052-95-3D, chloromethylated and amidated 65307-53-1D, amidated
 90737-33-0 90751-57-8
 RL: PROC (Process)
 (anion exchanger, for isotope separation)

L21 ANSWER 21 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1984:193229 HCPLUS
 DOCUMENT NUMBER: 100:193229
 TITLE: Basic imidazolylmethylstyrene compound, its polymer, and its use as an ion exchange resin
 INVENTOR(S): Miyake, Tetsuya; Takeda, Kunihiro; Tada, Keishi
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: U.S., 31 pp. Cont.-in-part of U.S. Ser. No.
 165,451, abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

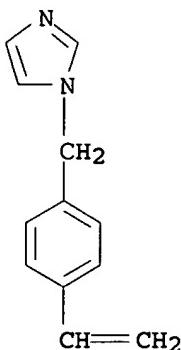
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4430445	A	19840207	US 1981-335943	198112 30
JP 56016471	A	19810217	JP 1979-90901	197907 19
JP 60047257	B	19851021		
JP 57117509	A	19820722	JP 1981-3739	198101 16
JP 01028053	B	19890531		
JP 57119908	A	19820726	JP 1981-4954	198101 19
JP 01028052	B	19890531		
JP 57119909	A	19820726	JP 1981-4955	198101 19
PRIORITY APPLN. INFO.:			JP 1979-90901	A 197907 19

US 1980-165451	A2 198007 02
JP 1981-3739	A 198101 16
JP 1981-4954	A 198101 19
JP 1981-4955	A 198101 19

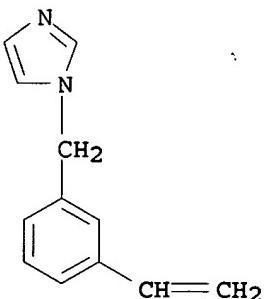
- AB** Imidazolylmethylstyrene compds. prepared by treating a halomethylstyrene with an imidazole compound are readily homo- or copolymerd. to provide linear homo- or copolymers or crosslinked copolymers containing pendant imidazolylmethylphenyl groups which have excellent resistance to oxidation and are useful as ion exchange resins, extractants for metals, sizing agents, and antistatic agents. Thus, 76.0 g m-chloromethylstyrene [39833-65-3] was added dropwise within 30 min to 136.2 g imidazole (I) [288-32-4] in 500 mL acetone (II) at 40° and agitation was continued at 40° for 16 h. II was distilled, and the residue was dissolved in 500 mL ether to give a solution which was worked up to give 77.3 g m-(1-imidazolylmethyl)styrene (III) [78430-90-7] as a substantially colorless liquid III (2.0 g) was added to a solution of 6.0 g bisphenol A-epichlorohydrin epoxy resin in 7.3 g Et cellosolve, and the mixture was coated on an Fe plate treated with Zn phosphate and heated for 1 h at 150°. The cured copolymer [89535-41-1] film had thickness 30 μ , pencil hardness 3 H, flexibility >10 mm, Erichsen cupping test 5.7 mm, and impact resistance (1/4 in. + 500 g) 30 cm pass and (1/2 in. + 500 g) 50 cm pass.
- IT** 83952-57-2
RN RL: USES (Uses)
 (ion exchangers and metal extractants)
CN 83952-57-2 HCPLUS
 1H-Imidazole, 1-[(3-ethenylphenyl)methyl]-, polymer with ethenylbenzene and 1-[(4-ethenylphenyl)methyl]-1H-imidazole (9CI)
 (CA INDEX NAME)

CM 1

CRN 78430-91-8
 CMF C12 H12 N2



CM 2

CRN 78430-90-7
CMF C12 H12 N2

CM 3

CRN 100-42-5
CMF C8 H8 $\text{H}_2\text{C}=\text{CH-Ph}$

IC B01J039-20; C08F026-06
 INCL 521038000
 CC 38-3 (Plastics Fabrication and Uses)
 IT 83952-57-2 83952-60-7 83952-61-8
 83952-62-9 83952-65-2 83952-66-3
 83952-67-4 83952-68-5 83970-12-1
 83970-13-2 83970-41-6 83970-44-9
 83970-47-2 83970-50-7 83985-14-2
 83995-60-2 83995-61-3 83995-62-4
 84001-00-3 84001-04-7 84001-76-3
 84001-77-4 84001-78-5 84012-68-0
 84020-22-4 84025-14-9 84025-15-0
 84025-17-2 84025-18-3 84025-19-4
 84025-20-7 84025-21-8 84026-00-6

84026-60-8 84026-61-9 84026-62-0
 84026-64-2 84026-65-3 84026-66-4
 84026-67-5 84026-68-6 84026-69-7
 84026-71-1 84048-33-9 84048-74-8
 84049-38-7 84107-18-6 89558-23-6
 89558-24-7 89593-31-7 89593-32-8
 89613-40-1 89613-41-2 89618-02-0

RL: USES (Uses)
 (ion exchangers and metal extractants)

IT 89535-41-1P

RL: PREP (Preparation)
 (preparation of crosslinked)

L21 ANSWER 22 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1983:35483 HCAPLUS
 DOCUMENT NUMBER: 98:35483
 TITLE: Manufacture of basic polymers
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57117509	A	19820722	JP 1981-3739	198101 16
JP 01028053	B	19890531		
US 4430445	A	19840207	US 1981-335943	198112 30
PRIORITY APPLN. INFO.:			JP 1979-90901	A 197907 19
			US 1980-165451	A2 198007 02
			JP 1981-3739	A 198101 16
			JP 1981-4954	A 198101 19
			JP 1981-4955	A 198101 19

AB ar-(1-Imidazolylmethyl)styrene derivative polymers useful for metal extraction are prepared. For example, ar-(1-imidazolylmethyl)styrene (m:p = 60:40) was polymerized in MeOH in the presence of AIBN at 80° for 20 h to give a polymer (I) [84001-78-5] having intrinsic viscosity (in 2N HCl, 25°) 0.60. A solution from 1 g I and

0.676 g FeCl₃.6H₂O in 50 cm³ 2N HCl was extracted 5 times with 50 mL CHCl₃. The residual Fe content in the aqueous phase was 2 mmol/L, while no extraction was observed in the absence of I.

IT 83995-60-2P

RL: PREP (Preparation)
(manufacture of, for metal extraction)

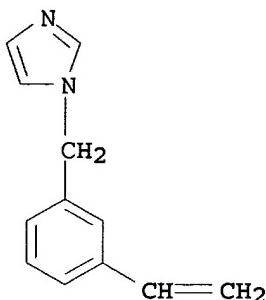
RN 83995-60-2 HCPLUS

CN 1H-Imidazole, 1-[(3-ethenylphenyl)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 78430-90-7

CMF C12 H12 N2



IC C08F112-32

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 61IT 83995-60-2P 83995-61-3P 83995-62-4P
84001-76-3P 84001-77-4P 84001-78-5P
84020-22-4P 84048-74-8P 84049-38-7P
84107-18-6P

RL: PREP (Preparation)
(manufacture of, for metal extraction)

L21 ANSWER 23 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1983:17489 HCPLUS

DOCUMENT NUMBER: 98:17489

TITLE: Manufacture of basic copolymers

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
JP 57119908	A	19820726	JP 1981-4954	198101 19
JP 01028052	B	19890531		
US 4430445	A	19840207	US 1981-335943	198112

PRIORITY APPLN. INFO.:

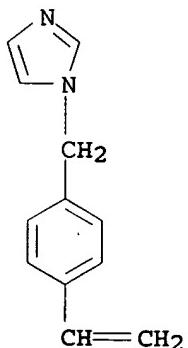
JP 1979-90901	A	30 197907 19
US 1980-165451	A2	198007 02
JP 1981-3739	A	198101 16
JP 1981-4954	A	198101 19
JP 1981-4955	A	198101 19

AB (1-Imidazolylmethyl)styrene copolymers useful for metal extraction were prepared. For example, 6.39 g (1-imidazolylmethyl)styrene (m-p ratio 60:40) and 3.61 g styrene were polymerized in the presence of AIBN at 90° for 24 h to give a copolymer (I) [83952-57-2]. I (1 g) and 0.270 g FeCl₃ were dissolved in 50 cm³ 2N HCl and extracted with 50 cm³ CHCl₃ 5 times. The residual Fe concentration in HCl was 1 mM, compared 19 mM in the absence of I.

IT 83952-57-2
 RL: USES (Uses)
 (extractants, for metals, manufacture of)

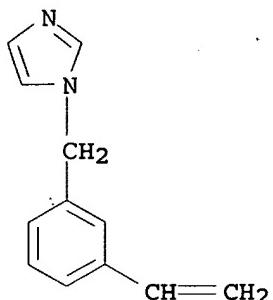
RN 83952-57-2 HCPLUS
 CN 1H-Imidazole, 1-[(3-ethenylphenyl)methyl]-, polymer with ethenylbenzene and 1-[(4-ethenylphenyl)methyl]-1H-imidazole (9CI)
 (CA INDEX NAME)

CM 1

CRN 78430-91-8
 CMF C12 H12 N2

CM 2

CRN 78430-90-7
 CMF C12 H12 N2



CM 3

CRN 100-42-5
 CMF C8 H8

H₂C=CH-Ph

IC C08F212-32
 CC 37-3 (Plastics Manufacture and Processing)
 IT 83952-57-2 83952-58-3 83952-59-4
 83952-60-7 83952-61-8 83952-62-9
 83952-65-2 83952-66-3 83952-67-4
 83952-68-5 83970-38-1 83970-41-6
 83970-44-9 83970-47-2 83970-50-7
 84025-14-9 84025-15-0 84025-16-1
 84025-17-2 84025-18-3 84025-19-4
 84025-20-7 84025-21-8 84026-00-6
 RL: USES (Uses)
 (extractants, for metals, manufacture of)

L21 ANSWER 24 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1983:17488 HCAPLUS
 DOCUMENT NUMBER: 98:17488
 TITLE: Crosslinked basic polymers
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57119909	A	19820726	JP 1981-4955	198101 19
US 4430445	A	19840207	US 1981-335943	198112

PRIORITY APPLN. INFO.:	JP 1979-90901	A 30 197907 19
	US 1980-165451	A2 198007 02
	JP 1981-3739	A 198101 16
	JP 1981-4954	A 198101 19
	JP 1981-4955	A 198101 19

AB Crosslinked basic polymers are prepared from (1-imidazolylmethyl)styrene derivs., and crosslinking comonomers. For example, 7 g (1-imidazolylmethyl)styrene (m:p = 60:40) and 3 g m-divinylbenzene were copolymerd. in an acetone-PhMe mixture in the presence of AIBN at 90° for 6 h to give an acetone-insol. crosslinked copolymer [83970-12-1] which was treated with HCl to give an anion exchanger having exchange capacity 3.36 mequiv/g.

IT 83985-15-3

RL: USES (Uses)
(anion exchangers)

RN 83985-15-3 HCPLUS

CN 1H-Imidazole, 1-[(3-ethenylphenyl)methyl]-, polymer with 1,3-diethenylbenzene and 1-[(4-ethenylphenyl)methyl]-1H-imidazole, hydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 83970-12-1

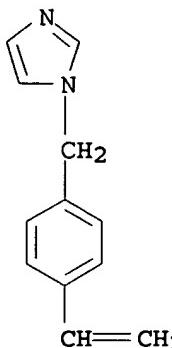
CMF (C₁₂ H₁₂ N₂ . C₁₂ H₁₂ N₂ . C₁₀ H₁₀)_x

CCI PMS

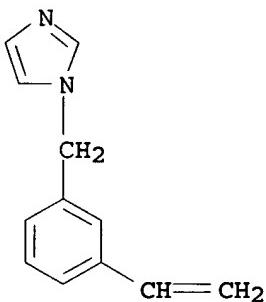
CM 2

CRN 78430-91-8

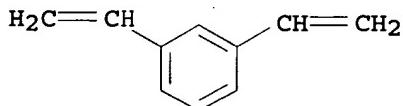
CMF C₁₂ H₁₂ N₂



CM 3

CRN 78430-90-7
CMF C12 H12 N2

CM 4

CRN 108-57-6
CMF C10 H10

IC C08F212-32
 CC 37-3 (Plastics Manufacture and Processing)
 IT 83985-15-3 84001-00-3 84001-02-5
 84012-68-0
 RL: USES (Uses)
 (anion exchangers)
 IT 83970-12-1P 83970-13-2P 83970-14-3P
 83985-14-2P 84001-01-4P 84001-04-7P
 84026-60-8P 84026-61-9P 84026-62-0P
 84026-63-1P 84026-64-2P 84026-65-3P
 84026-66-4P 84026-67-5P 84026-68-6P

84026-69-7P 84026-70-0P 84026-71-1P 84048-33-9P
 RL: PREP (Preparation)
 (preparation of)

L21 ANSWER 25 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1980:638652 HCAPLUS
 DOCUMENT NUMBER: 93:238652
 TITLE: Imidazolate complexes of iron and manganese tetraphenylporphyrins
 AUTHOR(S): Landrum, John T.; Hatano, K.; Scheidt, W. Robert; Reed, Christopher A.
 CORPORATE SOURCE: Dep. Chem., Univ. South. California, Los Angeles, CA, 90007, USA
 SOURCE: Journal of the American Chemical Society (1980), 102(22), 6729-35
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB In this abstract Im- = imidazolate and TPP = meso-tetraphenylporphyrin. The x-ray crystal structure of the polymér [Mn(Im)(TPP)]_n shows layers of parallel chains with alternate layers having their quasi-linear chains approx. orthogonal to each other. There is a short-short/long-long alternation of Mn-N(Im) bond lengths [2.186(5) and 2.280(4) Å] interpreted as reflecting alternating predominantly low- and high-spin Mn(III) atoms along the polymeric chain.

IT 75094-02-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 75094-02-9 HCAPLUS

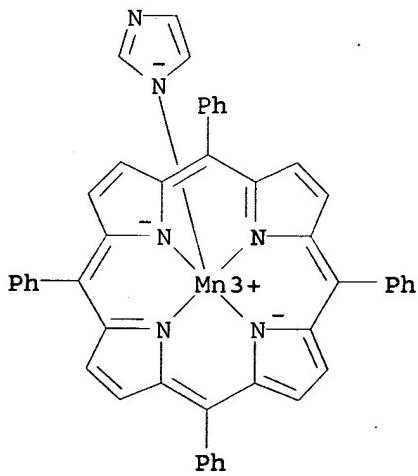
CN Manganese, (1H-imidazolato-N1)[5,10,15,20-tetr phenyl-21H,23H-porphinato(2-) -N21,N22,N23,N24]-, (SP-5-21)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 75094-01-8

CMF C47 H31 Mn N6

CCI CCS



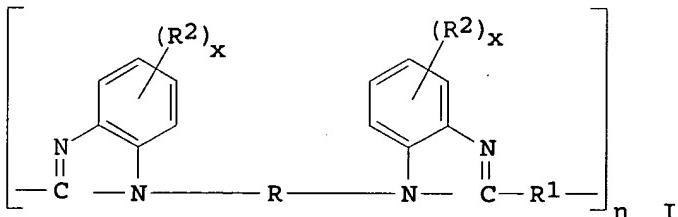
CC 22-9 (Physical Organic Chemistry)
 Section cross-reference(s): 75
 IT 16591-56-3P 55906-20-2P 67035-78-3P 67161-73-3P
 75094-02-9P 75094-40-5P 75104-71-1P 75104-76-6P
 75120-60-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

L21 ANSWER 26 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1979:492439 HCAPLUS
 DOCUMENT NUMBER: 91:92439
 TITLE: Linear and crosslinked polybenzimidazoles
 INVENTOR(S): Sheratte, Martin B.
 PATENT ASSIGNEE(S): Acurex Corp., USA
 SOURCE: U.S., 10 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 4154919	A	19790515	US 1976-719264	197608 31
PRIORITY APPLN. INFO.:			US 1976-719264	A 197608 31

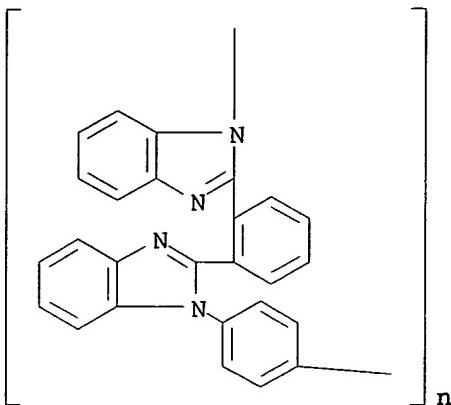
GI



AB Polybenzimidazoles (I, R = arylene, alkylene, cycloalkylene, methylenediphenylene, sulfonyldiphenylene, carbonyldiphenylene, oxydiphenylene; R1 = arylene or cycloalkylene; R3 = lower alkyl, alkoxy, halo; x = 0-4), having good thermal properties, were prepared. Thus, 0.01 mol 4,4'-bis(o-aminoanilino)biphenyl [40850-43-9] and 0.01 mol phthalic anhydride were mixed in 10 mL phenol and heated 4 h at 50° to give a foamed prepolymer [63100-69-6] having inherent viscosity 0.26 (0.5% in m-cresol). The prepolymer was further heated 1 h at 400° to give a tough polymer foam with inherent viscosity 0.79.

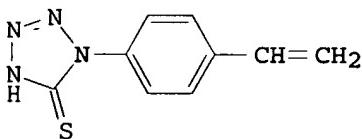
IT 71170-12-2P
 RL: PREP (Preparation)
 (preparation of heat-resistance)

RN 71170-12-2 HCPLUS
 CN Poly(1H-benzimidazole-1,2-diyl-1,2-phenylene-1H-benzimidazole-2,1-diyl-1,4-phenylene) (9CI) (CA INDEX NAME)



IC C08G073-06; C08G073-18
 INCL 528186000
 CC 36-3 (Plastics Manufacture and Processing)
 IT 63100-69-6P 71170-12-2P 71170-13-3P
 71170-14-4P 71170-26-8P 71170-27-9P 71170-29-1P
 71170-30-4P 71170-31-5P
 RL: PREP (Preparation)
 (preparation of heat-resistance)

L21 ANSWER 27 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1979:6724 HCPLUS
 DOCUMENT NUMBER: 90:6724
 TITLE: Synthesis of polymers containing
 1-phenyl-2-tetrazoline-5-thione groups
 AUTHOR(S): Grasshoff, J. Michael; Reid, Jerome L.; Taylor,
 Lloyd D.
 CORPORATE SOURCE: Chem. Res. Lab., Polaroid Corp., Cambridge, MA,
 USA
 SOURCE: Journal of Polymer Science, Polymer Chemistry
 Edition (1978), 16(9), 2403-5
 CODEN: JPLCAT; ISSN: 0449-296X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



I

AB 1-(4-Vinylphenyl)-2-tetrazoline-5-thione (I) [55425-03-1] is prepared from 4-vinylphenyl isothiocyanate [1520-20-3] and NaN₃ and polymerized as the K salt or in the acetylated form. Also prepared from 1-(3-aminophenyl)-1,2,3,4-tetrazole-5-thiol [14124-34-6] and either

acryloyl chloride [814-68-6] or 4,4-dimethyl-2-vinyl-5-oxazolone [29513-26-6] are 1-(3-acrylamidophenyl)-1,2,3,4-tetrazole-5-thiol [68383-27-7] and 1-[3-(2-acrylamido-2-methylpropionamido)phenyl]-1,2,3,4-tetrazole-5-thiol [68383-28-8], resp.

IT 58660-44-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

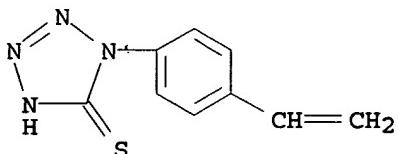
RN 58660-44-9 HCPLUS

CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, homopolymer
(9CI) (CA INDEX NAME)

CM. 1

CRN 55425-03-1

CMF C9 H8 N4 S



CC 35+3 (Synthetic High Polymers)
Section cross-reference(s): 28

IT 58660-44-9P 63036-05-5P 68383-27-7P
68383-28-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L21 ANSWER 28 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1977:423966 HCPLUS

DOCUMENT NUMBER: 87:23966

TITLE: Polymerization of sulfur containing compounds in aqueous media utilizing a tetra-alkylated azobis(acetonitrile)

INVENTOR(S): Grasshoff, J. Michael

PATENT ASSIGNEE(S): Polaroid Corp., USA

SOURCE: U.S., 5 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 4021417	A	19770503	US 1975-601364	197508 04

PRIORITY APPLN. INFO.:	US 1974-429928	A2	197401 02
	US 1974-520982	A2	197411 05

AB 2,2'-Azobis(2-methylpropionitrile) (I) [78-67-1] was used as a catalyst to prepare poly[1-(p-vinylphenyl)-1,2,3,4-tetrazole-5-thiol K salt] (II) [63036-05-5] or poly[(1-m-acrylamidophenyl)-1,2,3,4-tetrazole-5-thiol K salt] [63036-07-7]. Thus, 20 g 1-(p-vinylphenyl)-1,2,3,4-tetrazole-5-thiol was dissolved in 150 mL H₂O containing 13 g K carbonate, and the solution was heated at 60° for 16 h in the presence of 40 mg I to prepare 80% II.

IT 63036-05-5P

RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, catalysts for)

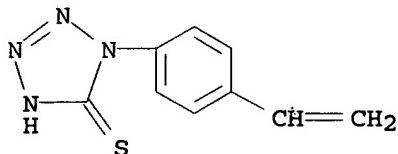
RN 63036-05-5 HCPLUS

CN 5H-Tetrazole-5-thione, 1-(4-ethenylphenyl)-1,2-dihydro-, potassium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 63036-04-4

CMF C9 H8 N4 S . K



● K

IC C08F028-02

INCL 260079700

CC 35-4 (Synthetic High Polymers)

IT 63036-05-5P 63036-07-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, catalysts for)

L21 ANSWER 29 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1976:5428 HCPLUS

DOCUMENT NUMBER: 84:5428

TITLE: Solid-phase polycondensation reaction of bisphenylurethane and diamino dicarboxylic acid

AUTHOR(S): Uno, Keikichi; Niiume, Kazuma; Nakayama, Tetsuo

CORPORATE SOURCE: Fac. Eng., Univ. Tokyo, Tokyo, Japan

SOURCE: Nippon Kagaku Kaishi (1975), (9), 1584-8

CODEN: NKAKB8; ISSN: 0369-4577

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

GI For diagram(s), see printed CA Issue.

AB Poly(quinazolinediones) containing benzimidazole ring were prepared by solid-phase polymerization of Z(C₆H₄NHCO₂Ph-p)₂ (Z = R, R₁ [57359-22-5], R₂ [57359-23-6]) with diaminodicarboxylic acids, and the reaction was studied by thermogravimetric anal. and DSC. The quinazolinedione formation involved the addition of amino group to the isocyanate group, formed by the thermal decomposition of urethane, and the subsequent cyclodehydration of formed urea with acid. The intramol. cyclodehydration depended on the mobility of the main

chain of the polymer as shown by comparison with that of model reaction between Ph N-[4-(2-benzimidazolyl)phenyl]carbamate [53859-70-4] and anthranilic acid [118-92-3]. These polymers were thermally stable and partially soluble in organic solvents, and glass transition temps. were measured by DSC.

IT

42388-44-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

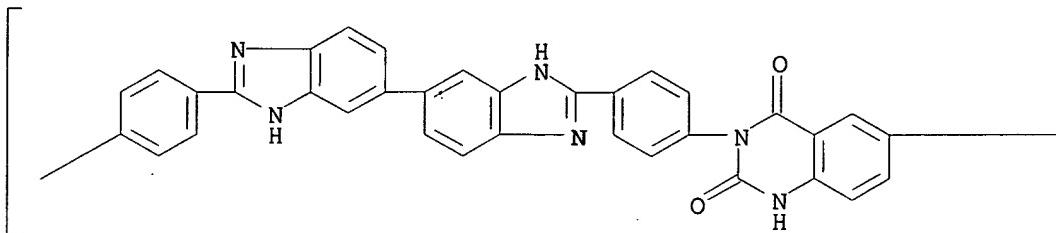
RN

42388-44-3 HCPLUS

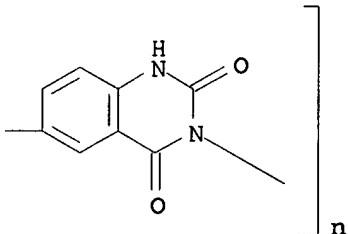
CN

Poly[(1,1',4,4'-tetrahydro-2,2',4,4'-tetraoxo[6,6'-biquinazoline]-3,3'(2H,2'H)-diyl)-1,4-phenylene[5,5'-bi-1H-benzimidazole]-2,2'-diyl-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 35-3 (Synthetic High Polymers)

IT 51-17-2DP, 1H-Benzimidazole, derivative, polymer 42388-44-3P

42423-53-0P 54849-20-6P 54849-29-5P

54850-65-6P 57360-82-4P 57360-83-5P

57364-94-0P 57364-95-1P 57364-96-2P 57364-97-3P 57364-99-5P

57423-80-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L21 ANSWER 30 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1975:514982 HCPLUS

DOCUMENT NUMBER: 83:114982

TITLE: Polymers containing the benzimidazole and the
quinazolinedione unit in the main chain

AUTHOR(S): Iwakura, Yoshio; Uno, Keikichi; Nguyen Chau

CORPORATE SOURCE: Fac. Eng., Univ. Tokyo, Tokyo, Japan

SOURCE: Makromolekulare Chemie (1975), 176(1), 23-36

CODEN: MACEAK; ISSN: 0025-116X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The solid state polymerization of aromatic diphenyl esters containing the

quinazolinedione unit (obtained from phenyl (phenoxy carbonylphenyl) carbamates and aromatic bis(o-amino)esters or carboxylic acids) with aromatic tetraamines gave polymers containing benzimidazole and quinazolinedione units and characterized by ir and uv spectroscopy, and thermogravimetric anal. A mixture of diphenyl 4,4'-(6,6'-methylenebis(2,4-dioxo-1,2,3,4-tetrahydroquinazolin-3-yl))dibenzoate and 4,4'-oxybis[1,2-benzenediamine] was heated in N at 250-60° in vacuo to give polymer in 100% yield.

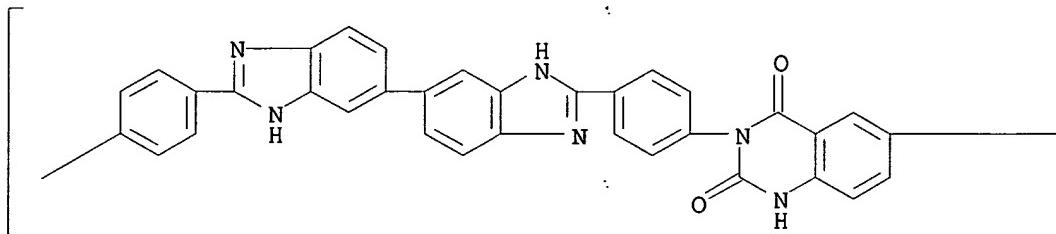
IT 42388-44-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(benzimidazole group-containing, preparation of)

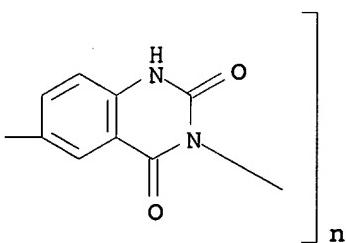
RN 42388-44-3 HCPLUS

CN Poly[(1,1',4,4'-tetrahydro-2,2',4,4'-tetraoxo[6,6'-biquinazoline]-3,3'(2H,2'H)-diyl)-1,4-phenylene[5,5'-bi-1H-benzimidazole]-2,2'-diyl-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 35-3 (Synthetic High Polymers)

IT 42388-44-3P 54849-20-6P 54849-21-7P

54849-22-8P 54849-23-9P 54849-24-0P

54849-25-1P 54849-26-2P 54849-27-3P

54849-28-4P 54849-29-5P 54871-67-9P

54871-68-0P 54871-69-1P 54871-70-4P 54871-71-5P 54871-72-6P

54871-73-7P 54871-74-8P 54871-75-9P 54871-76-0P 54871-77-1P

54871-78-2P 54871-79-3P 54886-59-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(benzimidazole group-containing, preparation of)

L21 ANSWER 31 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1974:506627 HCPLUS

DOCUMENT NUMBER: 81:106627

TITLE: Poly(amide imides)

INVENTOR(S): Kawamoto, Hisashi; Hayano, Osakazu

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd.

SOURCE: Jpn. Tokkyo Koho, 4 pp.

DOCUMENT TYPE: CODEN: JAXXAD
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: Japanese
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49002035	B	19740118	JP 1970-72799	197008 21
PRIORITY APPLN. INFO.:			JP 1970-72799	197008 21

AB Imidazole compds. I [X = p-C₆H₄OC₆H₄-p, m-C₆H₄C₆H₄-m, p-C₆H₄CH₂C₆H₄-p, (CH₂)₆], II and III were treated with mineral acid salts of (p-H₂NC₆H₄)₂O (IV), m- or p-C₆H₄(NH₂)₂, and m-H₂NC₆H₄C₆H₄NH₂ in solvents to give poly(amide imides). For example, 1.366 g IV-2HCl, 3.243 g I (X = p-C₆H₄OC₆H₄-p), and 20 ml AcNMe₂ were heated 20 min at 40.deg., treated with 20 ml AcNMe₂, and stored 1 hr to give p,p'-bis[5-(1(H)-imidazolylcarbonyl)phthalimido] diphenyl ether-p,p'-diaminodiphenyl ether dihydrochloride polymer [52539-26-1] forming a tough cast film from AcNMe₂ solution

IT 52539-26-1P

RL: PREP (Preparation)
 (preparation of)

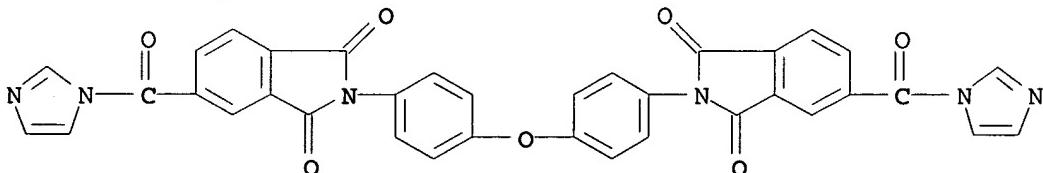
RN 52539-26-1 HCPLUS

CN 1H-Imidazole, 1,1'-[oxybis[4,1-phenylene(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl]]bis-, polymer with 4,4'-oxybis[benzenamine] dihydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 35261-84-8

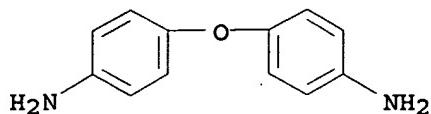
CMF C₃₆ H₂₀ N₆ O₇



CM 2

CRN 6040-86-4

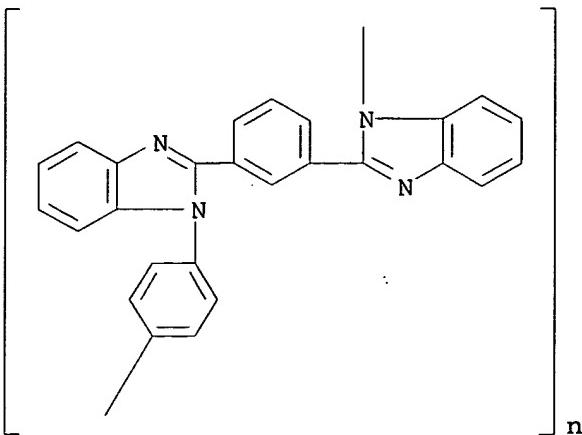
CMF C₁₂ H₁₂ N₂ O . 2 Cl H



● 2 HCl

IC C08G
 CC 36-3 (Plastics Manufacture and Processing)
 IT 26010-80-0P 52539-26-1P
 RL: PREP (Preparation)
 (preparation of)

L21 ANSWER 32 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1974:491978 HCPLUS
 DOCUMENT NUMBER: 81:91978
 TITLE: Synthesis and properties of poly(N-phenylbenzimidazoles)
 AUTHOR(S): Voznesenskaya, N. N.; Berendyaev, V. I.; Kotov, B. V.; Voishchev, V. S.; Pravednikov, A. N.
 CORPORATE SOURCE: Nauchno-Issled. Fiz.-Khim. Inst. im. Karpova, Moscow, USSR
 SOURCE: Vysokomolekulyarnye Soedineniya, Seriya B: Kratkie Soobshcheniya (1974), 16(2), 114-16
 CODEN: VYSBAI; ISSN: 0507-5483
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Poly-o-anilinoamide prepolymers for polybenzimidazoles (PBI) were prepared by the cyclodehydration (in vacuum at 300-370.deg.) in tetramethylene sulfone of aromatic acid chlorides and N-(aminophenyl)anilines [I, R = NH₂, H; R₁ = NH₂, H; R₂ = NH₂, 2-NHC₆H₃NH₂, 3,4-H₂N(PhNH)C₆H₃, 4-(o-H₂NC₆H₄NH)C₆H₄; R₃ = NHPh, H]. Such polyanilinoamides had higher mol. weight than when prepared in N-methylpyrrolidone and gave HCO₂H- and H₂SO₄-soluble PBI which formed heat-stable films (weight loss began at 450-500.deg.). The films also had good mech. and dielec. properties. The PBI from 1,3-diamino-4,6-dianilinobenzene-terephthaloyl chloride copolymer [26615-84-9] had sp. resistance >10¹² ohm cm at 300.deg..
 IT 52278-03-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and mech. and dielec. properties of)
 RN 52278-03-2 HCPLUS
 CN Poly(1H-benzimidazole-1,2-diyl-1,3-phenylene-1H-benzimidazole-2,1-diyl-1,4-phenylene) (9CI) (CA INDEX NAME)



CC 35-3 (Synthetic High Polymers)

IT 26615-37-2P 28576-60-5P 31497-74-2P 39820-43-4P 39820-45-6P

39820-49-0P 52278-03-2P 52278-04-3P

52278-05-4P 52278-06-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and mech. and dielec. properties of)

L21 ANSWER 33 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1974:478732 HCPLUS

DOCUMENT NUMBER: 81:78732

TITLE: Poly(amide imides)

INVENTOR(S): Kawamoto, Hisashi; Hayano, Osakazu

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd.

SOURCE: Jpn. Tokkyo Koho, 4 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 49002034	B	19740118	JP 1970-71371	197008 17
PRIORITY APPLN. INFO.:			JP 1970-71371	197008 17

AB Imidazole compds. I [X = p-C₆H₄OC₆H₄-p, m-C₆H₄C₆H₄-m, p-C₆H₄CH₂C₆H₄-p, (CH₂)₆], II, and III were treated with (p-H₂NC₆H₄)₂O (IV), m- or p-C₆H₄(NH₂)₂, and m-H₂NC₆H₄C₆H₄NH₂ in solvents to give poly(amide imides). For example, 1.001 g IV, 3.243g I (X = p-C₆H₄OC₆H₄-p), and 20 ml AcNMe₂ were heated 4 hr at 120.deg. to give p,p'-bis[5-(1(H)-imidazolylcarbonyl)phthalimido]diphenyl ether-p,p'-diaminodiphenyl ether polymer [37453-34-2] forming tough cast film from AcNMe₂ solution

IT 37453-34-2P

RL: PREP (Preparation)
(preparation of)

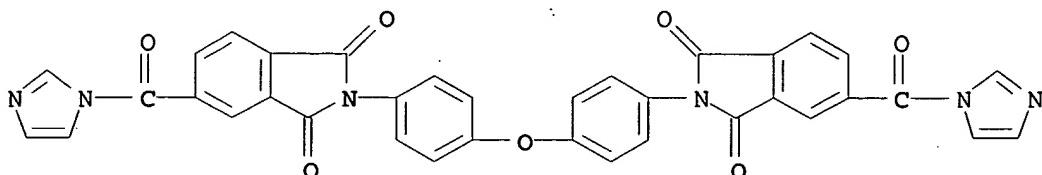
RN 37453-34-2 HCPLUS

CN 1H-Imidazole, 1,1'-[oxybis[4,1-phenylene(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl]]bis-, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 35261-84-8

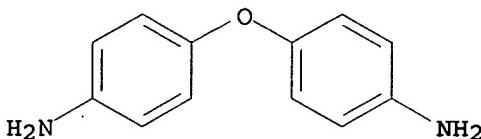
CMF C36 H20 N6 O7



CM 2

CRN 101-80-4

CMF C12 H12 N2 O



IC C08G

CC 36-3 (Plastics Manufacture and Processing)

IT 26010-80-0P 37453-34-2P

RL: PREP (Preparation)

(preparation of)

L21 ANSWER 34 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1974:478475 HCPLUS

DOCUMENT NUMBER: 81:78475

TITLE: Production of thermostable polymers in solid phase

PATENT ASSIGNEE(S): Maruzen Oil Co., Ltd.

SOURCE: Brit., 6 pp.

CODEN: BRXXAA

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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GB 1318685	A	19730531	GB 1971-10130	197104 20
JP 49014152	B	19740405	JP 1970-42431	197005

JP 49015072	B	19740412	JP 1970-129896	20
PRIORITY APPLN. INFO.:				197012
				30
			JP 1970-42431	A
				197005
				20
			JP 1970-129896	A
				197012
				30

AB A blocked diisocyanate and a diamine, dialc., or diaminodicarboxylic acid were dissolved in 1:1 molar ratio in a solvent at room temperature and the solutes precipitated out or the solvent evaporated to obtain a mixture of monomers which was heated to form a polymer stable to 355-460.deg.. Thus, 3.23 g 2,2'-bis[p-[N-(phenoxy carbonyl)amino]phenyl]-5,5'-bibenzimidazole and 2.05 g 2,2'-(p-diaminophenyl)-5,5'-bibenzimidazole were dissolved in 9 g hexamethylphosphoramide, MeOH and hot water were added, the solution left 5 hr, and the precipitate collected and washed. The mixture was heated 5 hr at 210-20.deg. under N at atmospheric pressure and 2 hr at 290-300.deg. at 1 mm to give 96% 2,2'-(p-[N-(phenoxy carbonyl)amino]phenyl)-5,5'-bibenzimidazole-2,2'-(p-diaminophenyl)-5,5'-bibenzimidazole copolymer inherent viscosity 0.37 at 0.2 g/100 ml concentrated H₂SO₄ at 30.deg. and < 5% weight loss heated to 460.deg. in the atmospheric

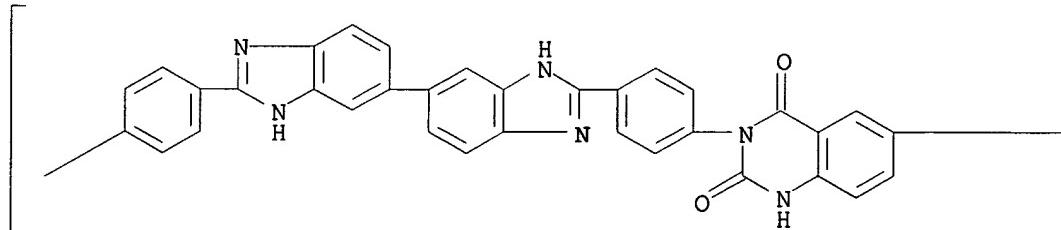
IT 42388-44-3P

RL: PREP (Preparation)
(preparation of)

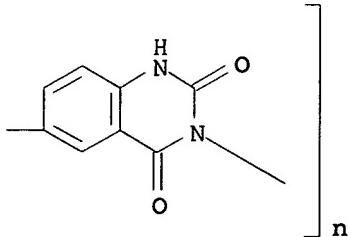
RN 42388-44-3 HCPLUS

CN Poly[(1,1',4,4'-tetrahydro-2,2',4,4'-tetraoxo[6,6'-biquinazoline]-3,3'(2H,2'H)-diyl)-1,4-phenylene[5,5'-bi-1H-benzimidazole]-2,2'-diyl-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC C08G
 CC 35-3 (Synthetic High Polymers)
 IT 39421-37-9P 42378-65-4P 42378-66-5P 42378-67-6P 42378-68-7P
 42388-41-0P 42388-42-1P 42388-43-2P 42388-44-3P
 42388-45-4P 42388-46-5P 42423-51-8P
 42423-52-9P 42423-53-0P 42426-79-9P
 RL: PREP (Preparation)
 (preparation of)

L21 ANSWER 35 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1973:85076 HCPLUS
 DOCUMENT NUMBER: 78:85076
 TITLE: Polybenzimidazoles
 INVENTOR(S): Sayigh, Adnan A. R.; Tucker, Benjamin W.;
 Ulrich, Henri
 PATENT ASSIGNEE(S): Upjohn Co.
 SOURCE: U.S., 5 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3708439	A	19730102	US 1971-184621	197109 28
PRIORITY APPLN. INFO.:			US 1971-184621	A 197109 28

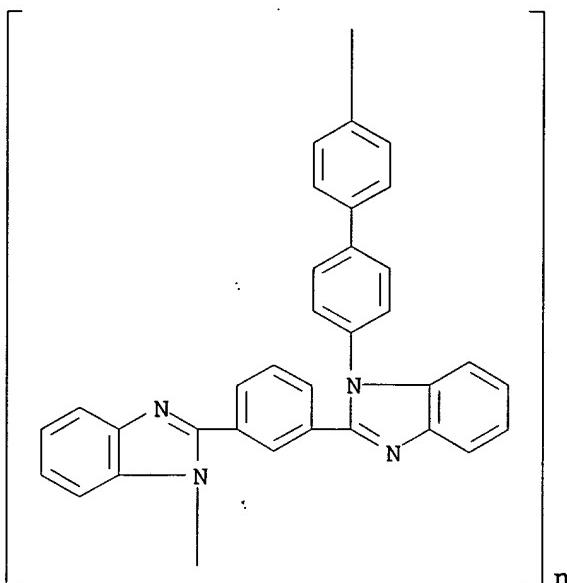
AB One of 10 aromatic diamines N,N'-disubstituted with 2-aminophenyl groups, e.g. bis[N-(2-aminophenyl)-4-aminophenyl]methane (I) or 4,4'-bis[N-(2-aminophenyl)amino]biphenyl, was synthesized and polycondensed with di-Ph isophthalate (II) or di-Ph biphenyl-4,4'-dicarboxylate to give a polybenzimidazole with good heat resistance and processability. Thus, bis(4-aminophenyl)methane and o-fluoronitrobenzene were heated in the presence of MgO and water at 240-50.deg. to give 51.7% bis[N-(2-nitrophenyl)-4-aminophenyl]methane which was reduced with H to give 71% I. A mixture of 1.9 g I and 1.49 g II was heated 4 hr at 200.deg., cooled, left overnight, and heated 5 hr at 300-60/0.005 mm to give 1.2 g bis(N-2-aminophenyl-4-aminophenyl)methane-isophthalic acid polymer (III) [38783-40-3] with mol. weight .sim.5000, m.p. 260-75.deg., and weight loss at 500.deg. in the air 5%.

IT 40935-69-1P

RL: PREP (Preparation)
 (preparation of)

RN 40935-69-1 HCPLUS

CN Poly(1H-benzimidazole-1,2-diyl-1,3-phenylene-1H-benzimidazole-2,1-diyl[1,1'-biphenyl]-4,4'-diyl) (9CI) (CA INDEX NAME)



IC C08G

INCL 260002000R

CC 35-3 (Synthetic High Polymers)

IT 38783-40-3P 40850-41-7P 40850-42-8P 40850-43-9P 40850-44-0P

40850-45-1P 40935-69-1P 40935-70-4P 40935-71-5P

40935-86-2P 40935-87-3P 41520-83-6P

RL: PREP (Preparation)
(preparation of)

L21 ANSWER 36 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1972:435014 HCPLUS

DOCUMENT NUMBER: 77:35014

TITLE: Polyamide-imides prepared from diimidazolide

AUTHOR(S): Hayano, Fusakazu; Komoto, Hiroshi

CORPORATE SOURCE: Tech. Res. Lab., Asahi Chem. Ind. Co., Ltd.,
Tokyo, JapanSOURCE: Journal of Polymer Science, Polymer Chemistry
Edition (1972), 10(4), 1263-6
CODEN: JPLCAT; ISSN: 0449-296X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The diimidazolide, N,N'-(oxydi-p-phenylene)bis[4-(1-imidazolylcarbonyl)phthalimide] (I) [35261-84-8], was prepared and treated with diamines R(NH₂)₂ [R = m-C₆H₄ or (p-C₆H₄)₂M (M = O, CH₂, SO₂)] to form polyamide-imides (II). Thus, N,N'-(oxydi-p-phenylene)bis[4-(chloroformyl)phthalimide] was treated with imidazole to form I, m.p. 240.deg.. I was treated with 4,4'-diaminodiphenyl ether in DMA to give II, R = (p-C₆H₄)₂O. The inherent viscosity was 0.21(0.5 g in 100 ml DMA, 30.deg.).

IT 37453-34-2P

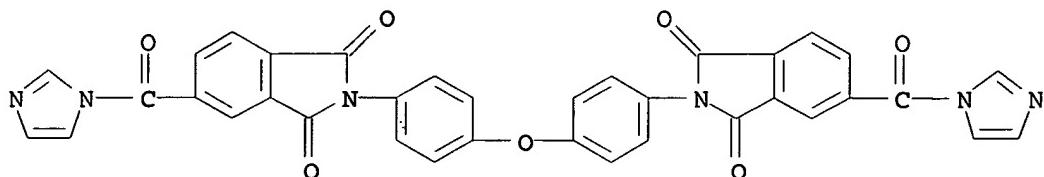
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 37453-34-2 HCPLUS

CN 1H-Imidazole, 1,1'-(oxybis[4,1-phenylene(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl])bis-, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

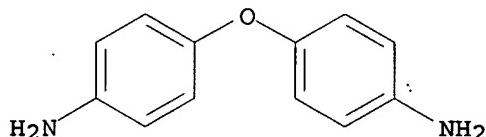
CM 1

CRN 35261-84-8
 CMF C36 H20 N6 O7



CM 2

CRN 101-80-4
 CMF C12 H12 N2 O



CC 35-3 (Synthetic High Polymers)
 Section cross-reference(s): 25, 28
 IT 35261-84-8P 37453-34-2P 37453-35-3P
 37453-36-4P 37605-29-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

L21 ANSWER 37 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1971:414438 HCPLUS
 DOCUMENT NUMBER: 75:14438
 TITLE: 1,1'-(m- and p-Phenylene)bis(2-tetrazoline-5-thiones) as chelating ligands, ruthenium(III) polymer chelates
 AUTHOR(S): Johar, G. S.
 CORPORATE SOURCE: Dep. Chem., V. S. S. D. Coll., Kanpur, India
 SOURCE: Labdev, Part A: Physical Sciences (1970), 8(3), 114-19
 CODEN: LAPSBF; ISSN: 0368-7430
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The reaction between two isomeric ligands, m-phenylenebis(2-tetrazoline-5-thiones) or MDT-5, p-phenylene(2-tetrazoline-5-thione) or PDT-5 and Ru(III) ion were studied. Thiocarbonyl S and tetrazoline N are potential donors. The complexes are green, insol., and are polymeric in nature. Anal. of the complexes reveal 1:1 (Ru:ligand) and mol. formula Ru(C8H4N3S2)Cl. Magnetic susceptibility measurements show that Ru (PDT-5)Cl is paramagnetic with μ_{eff} 1.15 μ_B and Ru (MDT-5)Cl is diamagnetic. In comparison of the ir spectra of ligand and complexes, the HNC:S bands of the ligands due to mixed vibrations of ν C:S, ν C-N, and ν C-H at 1500, 1310, 990, and 760 cm^{-1} are shifted from their

original position and 4 new bands around 1100, 1025, 574, and 400 cm⁻¹ arise in the spectra of Nu complexes. The bands at 575 and 400 cm⁻¹ are assigned to νRu-N and νRu-S, resp. The reflectance spectra of both complexes show 3 weak bands at 680, 570, and 400 μμ are assigned the transitions. 2A1g → 2A2g, 2A1g → 2A2gb, and 2A2g → 2Eg(b), resp.

IT 28258-83-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 28258-83-5 HCAPLUS

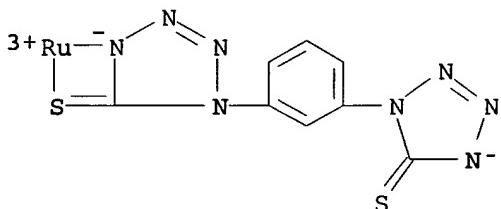
CN Ruthenium(1+), [(1,1'-(1,3-phenylene)bis[1,2-dihydro-5H-tetrazole-5-thionato]) (2-) -N4,S5]-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 46981-97-9

CMF C8 H4 N8 Ru S2 . Cl

CCI CCS



● Cl-

CC 78 (Inorganic Chemicals and Reactions)

IT 24271-29-2DP, 2-Tetrazoline-5-thione, 1,1'-p-phenylenebis-, ruthenium complexes 24950-73-0DP, 2-Tetrazoline-5-thione, 1,1'-m-phenylenebis-, ruthenium complexes 28258-82-4P
28258-83-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L21 ANSWER 38 OF 41 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1970:426619 HCAPLUS

DOCUMENT NUMBER: 73:26619

TITLE: Fluorescent whiteners

INVENTOR(S): Booth, Gary E.

PATENT ASSIGNEE(S): Procter and Gamble Co.

SOURCE: Ger. Offen., 111 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 1949137	A	19700423	DE 1969-1949137	196909

FR 2019511	A5	19700703	FR 1969-33185	29
				196909
				29
BE 739640	A	19700331	BE 1969-739640	196909
				30
NL 6914755	A	19700401	NL 1969-14755	196909
				30
PRIORITY APPLN. INFO.:			US 1968-763944	A
				196809
				30

GI For diagram(s), see printed CA Issue.

AB The title compds., e.g., I, useful on cotton and nylon, are prepared by condensing difunctional fluorescent compds. with difunctional reagents. Thus, 4,2-H2N(H2NO2S)C6H3CH:CHC6H3(SO2NH2)NH2-2,4 was condensed with (CH2COCl)2 in Me2NCHO to give I (R2 = H, X = NH, Y = NHCOCH2CH2CO, Z = OH, R = SO2NH2, n = 2-10), λ_{max} 349 nm. Also prepared were I (R1, X, Y, Z, R, and n given): H, NH, Q (R = OMe), Cl, SO3Na, 2-10; H, NH, Q (R = NH2), Cl, SO3Na, 2-10; H, NH, NHCOCH2CH2CO, OH, SO2NH3, 2-12; H, NH, Q (R = OMe), Cl, SO2NH2, 2-10; H, NH, Q (R = NH2), Cl, SO2NH2, 2-12; HO, CO, CONH(CH2)6NH, H, H, 2-8; H, NH, NHCOCH2CH2CO, OH, H, 2-12; H, NH, Q (R = OMe), Cl, H, 2-12; H, OCH2(CHOH)4CH2O2C, p-CH:CHC6H4CO, OCH2(CHOH)4CH2OH, H, 2-6; H, OCH2CH(OH)CH2O2C, p-CH:CHC6H4CO, OCH2CH(OH)CH2OH, H, 2-8; H, NH, NHCO(CH2)4CO, OH, SO2NH2, 2-8; H, NH, NHCO(CH2)8CO, OH, SO2NH2, 2-12; H, NH, Q (R = OEt), Cl, SO3Na, 2-12; H, NH, Q (R = Me), Cl, SO2NH2, 2-12; H, NH, Q (R = OEt), Cl, SO2NH2, 2-12; HO, CO, CONH(CH2)3NH, H, H, 2-12; HO, CO, CONHCH2CH2NH, H, H, 2-12; H, NH, Q (R = MeNEt), Cl, SO3Na, 2-12; H, NH, Q (R = NMe2), Cl, SO3Na, 2-12; H, NH, Q (R = NMe2), Cl, SO2NH2, 2-12; H, NH, Q (R = EtCO), Cl, H, 2-12; H, NH, Q (R = Me), Cl, H, 2-12; H, NH, Q (R = Me), Cl, SO3Na, 2-12; H, NH, NHCO(CH2)4CO, OH, H, 2-12; H, NH, NHCO(CH2)8CO, OH, H, 2-12; HO, CO, CONH(CH2)3NH, H, OMe, 3-8; H, O, O2CCH2CH2CO, OH, OMe, 2-10; H, NH, COCH2CH2CO, OH, SO3Na, 6-20. Twenty-eight addnl. compds. containing various heterocyclic ring systems are also described.

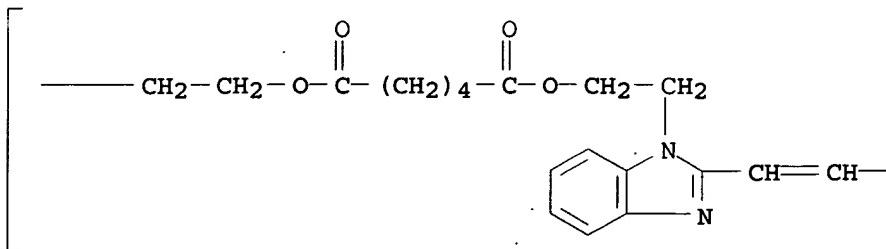
IT 27660-57-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of)

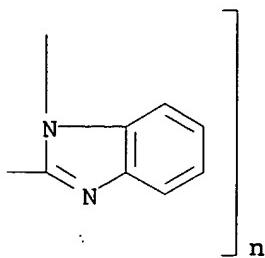
RN 27660-57-7 HCPLUS

CN Poly[1H-benzimidazole-1,2-diyl-1,2-ethenediyl-1H-benzimidazole-2,1-diyl-1,2-ethanediylxy(1,6-dioxo-1,6-hexanediyI)oxy-1,2-ethanediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



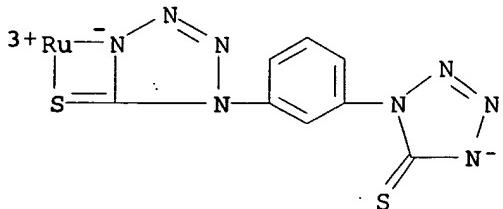
PAGE 1-B



- IC C07D
 CC 40 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)
 IT 27660-46-4P 27660-47-5P 27660-48-6P 27660-49-7P 27660-50-0P
 27660-51-1P 27660-52-2P 27660-53-3P 27660-54-4P 27660-55-5P
 27660-56-6P 27660-57-7P 27660-58-8P
 27660-60-2P 27660-61-3P 27660-62-4P 27680-79-1P 27680-80-4P
 27680-81-5P 27680-82-6P 27680-83-7P 27680-84-8P 27681-48-7P
 27681-49-8P 27681-50-1P 27681-51-2P 27681-52-3P 27681-53-4P
 27681-54-5P 27681-55-6P 27681-56-7P 27681-57-8P 27681-58-9P
 27681-59-0P 27681-60-3P 27681-61-4P 27681-62-5P 27681-63-6P
 27681-64-7P 27681-65-8P 27681-66-9P 27734-71-0P
 27734-72-1P 27734-73-2P 27734-74-3P 27734-75-4P
 27734-76-5P 27734-77-6P 27755-89-1P 27903-53-3P 27903-54-4P
 28029-37-0P 29117-04-2P 29117-05-3P 29383-94-6P
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (preparation of)
- L21 ANSWER 39 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1970:410415 HCPLUS
 DOCUMENT NUMBER: 73:10415
 TITLE: Analytical applications of m- and p-phenylene-di(1-tetrazoline-5-thione). Gravimetric determination of ruthenium(III) in presence of large amounts of rhodium(III)
 AUTHOR(S): Johar, G. S.; Agarwala, Umesh
 CORPORATE SOURCE: Dep. Chem., V.S.S.D. Coll., Kanpur, India
 SOURCE: Talanta (1970), 17(4), 355-9
 CODEN: TLNTA2; ISSN: 0039-9140
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A simple and rapid method is described for the gravimetric determination of Ru(III) with 2 new isomeric reagents, m- and p-phenylenedi-1-tetrazoline-5-thione. Solns. containing mg-amts. of Ru(III) on treatment with the Me₂CO or EtOH solns. of the reagents at pH 5.5-7.0 give a quant. yield of an intensely green insol. 1:1 complex, which can be easily filtered off and dried at 110-15°. Amts. of Ru down to 0.5 mg can be determined with fairly good accuracy and precision. Even large amts. of Rh do not cause any interference. Pd(II), Pt(IV), Au(III), Ir(IV), Bi, Fe(III), Cu(II), Hg(I), Hg(II), Pb, Cd, Tl(I), and Ag interfere.
 IT 28258-83-5
 RL: PRP (Properties)
 (spectrum of)
 RN 28258-83-5 HCPLUS
 CN Ruthenium(1+), [[1,1'-(1,3-phenylene)bis[1,2-dihydro-5H-tetrazole-5-thionato]](2-)-N4,S5]-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 46981-97-9
 CMF C8 H4 N8 Ru S2 . Cl
 CCI CCS

● Cl⁻

CC 79 (Inorganic Analytical Chemistry)
 IT 28258-82-4 28258-83-5
 RL: PRP (Properties)
 (spectrum of)

L21 ANSWER 40 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1969:57742 HCPLUS
 DOCUMENT NUMBER: 70:57742
 TITLE: Synthesis of some new di- and poly(3,4-disubstituted-5- mercaptol1,2,4-triazoles) and their methylthio ester derivatives
 AUTHOR(S): Budeanu, Constantin H.
 SOURCE: Analele Stiintifice ale Universitatii Al. I. Cuza din Iasi, Sectiunea 1c: Chimie (1967), 13(2), 179-90
 CODEN: AUZCAZ; ISSN: 0041-9117
 DOCUMENT TYPE: Journal
 LANGUAGE: Romanian
 AB A new series of heterocyclic compds. containing 2 nuclei of 1,2,4-triazole with a thiol group in position 5, and 2 different substituents in positions 3 and 4 were prepared. Cyclization was effected in an almost theoretical yield of very pure substances when dilute NaOH was boiled with 4-substituted-1-acylated-thiosemicarbazides. Thus, 3 g. 1,1'-malonylbis[4-phenylthiosemicarbazide] is dissolved in 20 cc. 2N NaOH, the solution boiled 2 hrs., cooled, neutralized with dilute HCl, and suction-filtered, and the solid washed with H₂O and dried to give 2.7 g. 3,3'-methylenebis[5-mercaptop-4-phenyl-1,2,4-triazole] (I), m. 303-4° (EtOH). Similarly prepared were: 3,3'-methylenebis[4-phenyl-5-mercaptop-1,2,4-triazole], m. 308-9°; 4,4'-p-phenylenebis[3-phenyl-5-mercaptop-1,2,4-triazole] (IIa), m. 380° (HCONMe₂-H₂O); 4,4'-(ethylenedi-p-phenylene)-bis[3-phenyl-5-mercaptop-1,2,4-triazole] (IIb), m. 308-10° (EtOH); poly[3,3'-methylene-4,4'-p-phenylenebis(5-mercaptop-1,2,4-triazole)], (II), m. > 350° (HCONMe₂-H₂O); and the 4,4'-(ethylenedi-p-phenylene) analog (III), m. 330° (softens) (H₂O- HCONMe₂). Treatment of these in dilute NaOH with Me₂SO₄ gave the S-Me ethers.

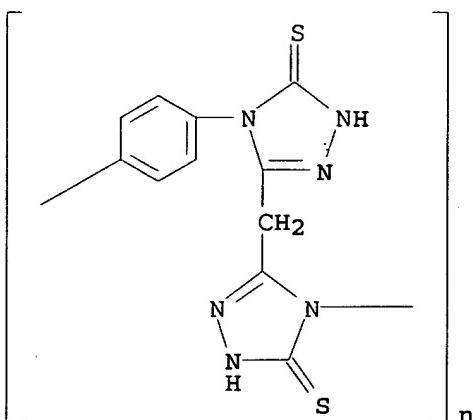
To a clear and chilled solution of 1.8 g. I in 15 cc. 2N NaOH 2.5 cc. Me₂SO₄ and 10 cc. 2N NaOH was added with stirring, and the precipitate suction-filtered, washed with H₂O, and dried to give 1.9 g.
 3,3'-methylenebis[4-phenyl-5-methylthio-1,2,4-triazole], m. 237-9° (EtOH). Similarly prepared were: 3,3'-methylenebis[4-phenyl-5-methylthio-1,2,4-triazole], m. 267-9° (EtOH); 4,4'-p-phenylenebis[3-phenyl-5-methylthio-1,2,4-triazole], m. 281-3° (EtOH); 4,4'-(ethylenedi-p-phenylene)bis[3-phenyl-5-methylthio-1,2,4-triazole], 221-3° (EtOH); the S-Me ether of III, m. 266° (decomposition) (H₂O-HCONMe₂); and the SMe ether of III, m. 160° (softens) (H₂O-HCONMe₂). In all cases methylation yields were quant.

IT 28780-92-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 28780-92-9 HCPLUS

CN Poly[(5-mercaptop-4H-1,2,4-triazole-4,3-diyl)methylene(5-mercaptop-4H-1,2,4-triazole-3,4-diyl)-1,4-phenylene] (9CI) (CA INDEX NAME)



CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))

IT 21776-79-4P 21776-80-7P 21776-81-8P 21776-82-9P 21776-83-0P
21776-84-1P 21776-85-2P 21819-67-0P 28780-92-9P
28780-93-0P 28780-94-1P 28780-95-2PRL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

L21 ANSWER 41 OF 41 HCPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1968:96232 HCPLUS

DOCUMENT NUMBER: 68:96232

TITLE: Polytetrazoles and poly(aminotetrazoles)

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AB Poly(aminotetrazoles) were obtained by the action of hydrazoic acid on solns. of polycarbodiimides prepared from methylenebis(4-phenyl isocyanate), toluene 2,4-diisocyanate, 3,3'-dimethoxy-4,4'-biphenylene diisocyanate, mesitylene diisocyanate, and hexamethylene diisocyanate. The poly(aminotetrazoles), which were soluble only in

concentrated sulfuric acid, had inherent viscosities of 0.12-0.78. Polymerization of the disodium salts of ditetrazoles with α,ω -dihalides gave polytetrazoles without the secondary amine linkage in the chain. The bistetrazoles used were methylenedi(5-tetrazole) and 5,5'-p-phenyleneditetrazole, and the dihalides were α,α' -dichloro-p-xylene, 1,2-dibromoethane, and 1,4-dibromobutane. The polytetrazoles were soluble in concentrated sulfuric acid and had low inherent viscosities, 0.08-0.17. Thermogravimetric anal. showed that marked degradation of both classes of polymers occurred at 250-300°. 17 references.

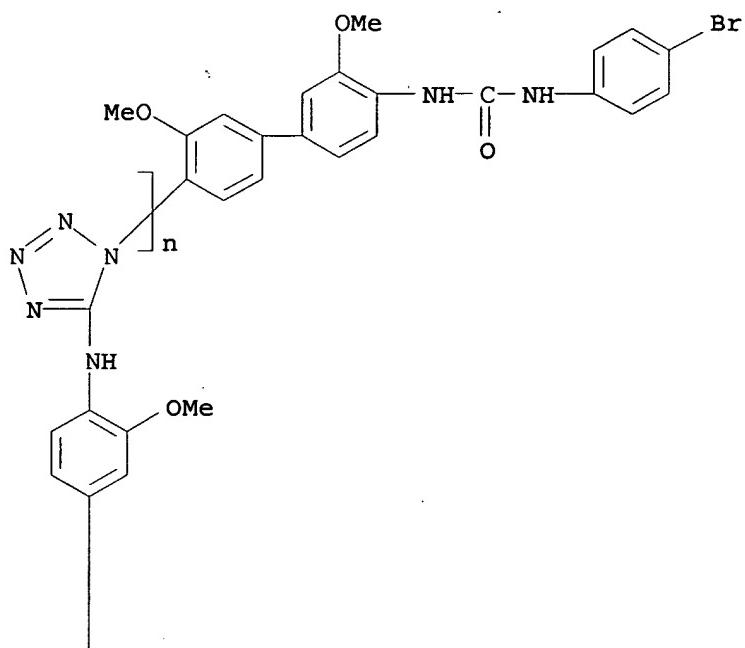
IT 31692-16-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
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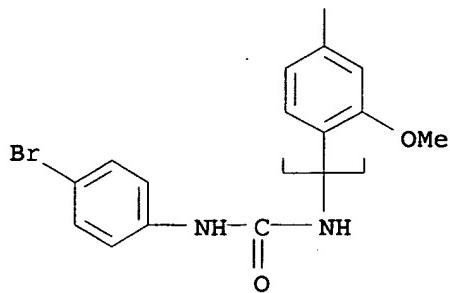
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CN Poly[1H-tetrazole-1,5-diylmino(3,3'-dimethoxy[1,1'-biphenyl]-4,4'-diyl), α -[4'-[[[(4-bromophenyl)amino]carbonyl]amino]-3,3'-dimethoxy[1,1'-biphenyl]-4-yl]- ω -[[[(4-bromophenyl)amino]carbonyl]amino]- (9CI) (CA INDEX NAME)

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IT 16959-10-7P 19300-32-4P 31692-15-6P 31692-16-7P
31692-17-8P 31692-18-9P 31692-19-0P 31692-20-3P 31692-21-4P
31799-79-8PRL: SPN (Synthetic preparation); PREP (Preparation)
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